Offenlegung, Earnings Management und Informationsasymmetrie

Dissertation

eingereicht an der Wirtschaftswissenschaftlichen Fakultät

der Universität Zürich

zur Erlangung der Würde
eines Doktors
der Wirtschaftswissenschaften, Dr. oec.

vorgelegt von

Jérôme Halberkann

aus der Bundesrepublik Deutschland

genehmigt im Juli 2016 auf Antrag von

Prof. Dr. Conrad Meyer

Prof. Dr. David Oesch

Die Wirtschaftswissenschaftliche Fakultät der Universität Zürich gestattet hierdurch die Drucklegung der vorliegenden Dissertation, ohne zu den darin ausgesprochenen Anschauungen Stellung zu nehmen.

Zürich, 20.07.2016

Der Vorsitzende des Doktoratsausschusses: Prof. Dr. Steven Ongena

Meiner Familie gewidmet

Danksagung

Mein besonderer Dank gilt meinem Doktorvater und Vorgesetzten, Professor Dr. Conrad Meyer, Inhaber des Lehrstuhls für Accounting an der Universität Zürich. Ohne sein Vertrauen, die Einräumung akademischer Freiheit und die zur Verfügung gestellten Ressourcen wäre die Dissertation nicht möglich gewesen. Die vielfältigen und anspruchsvollen Arbeitsgebiete am Lehrstuhl haben mich persönlich und fachlich weiter gebracht. Ebenfalls möchte ich Professor Dr. David Oesch für die Übernahme des Koreferats danken.

Einen herzlichen Dank richte ich an meine Kolleginnen und Kollegen am Lehrstuhl für Accounting. Die angenehme Zusammenarbeit und Zerstreuungen am Mittagstisch haben so manche Schreibblockade erträglicher gemacht. Die gemeinsame Zeit werde ich in guter Erinnerung behalten.

Mein grösster Dank gilt meiner Familie. Insbesondere meiner Mutter, die mir eine akademische Ausbildung ermöglicht hat. Meiner Frau, Burcu, danke ich für ihre liebevolle Unterstützung und die regelmässige Erinnerung an den Abgabetermin.

Zürich, im Mai 2016 Jérôme Halberkann

Inhaltsverzeichnis

Übersicht zu den Papers

In die vorliegende Dissertation fliessen insgesamt drei Beiträge ein. Alle drei Papers sind in englischer Sprache erschienen:

1. Meyer, C., Halberkann, J. 2016. Goodwill Impairment, Earnings Management, and Unserious IFRS adoption – Are the Good Guys Better than the Bad? *Working Paper.*

2. Fiechter, P., Meyer, C., Halberkann, J. 2014. Being wrong on IFRS? On the Causes and Consequences of a Voluntary Turn Away from IFRS to Local GAAP. *Working Paper*

3. Halberkann, J., Widmer, S. 2015. Beyond IFRS – How Firms Benefit from Industry Specific Reporting Guidance. *Working Paper*.

1 Einleitung

Accounting-Forschung befasst sich mit „dem Einfluss von ökonomischen Ereignissen auf den Prozess der Zusammentragung, Analyse, Überprüfung und Berichterstattung von standardisierten Finanzinformationen sowie mit dem Einfluss der veröffentlichten Informationen auf ökonomische Ereignisse“ (Oler et al., 2012). Es handelt sich um ein breites Forschungsfeld. Dementsprechend verschieden sind auch die Forschungsfragen der Papers dieser Dissertation. Sie befassen sich mit dem Zusammenhang von Earnings Management und ernsthafter IFRS-Anwendung, den Gründen und den Konsequenzen einer Abkehr von den IFRS und dem Wert Industrie-spezifischer Offenlegung. Das vorliegende Rahmenpapier ordnet die Beiträge in die bestehende Accounting-Forschung ein, fasst sie zusammen und beschreibt die Ergebnisse.

Kapitel 2 setzt die Papers, in den breiteren Kontext der nationalen und internationalen Literatur. Kapitel 3 geht auf die Fragestellungen der Papers ein. Kapitel 4 beschreibt die Samples, die Datenherkunft und die statistischen Methoden. Kapitel 5 zeigt die Ergebnisse der Papers auf. Zuletzt geht Kapitel 6 auf die theoretischen und methodischen Überlegungen ein und zeigt Perspektiven für zukünftige Forschungsarbeiten auf.

2 Einordnung in die bestehende empirische Accounting-Forschung

Die moderne Accounting-Forschung hat sich in den 1960er Jahren von ihrer normativen Ausrichtung gelöst und sich dem positiven Ansatz zugewendet. Sie untersucht nicht mehr „was sein soll“ und leitet daraus Grundsätze ab, sondern betrachtet das Reporting-Verhalten und seine Auswirkungen als Untersuchungsgegenstand, an dem der Einfluss von Accounting und Accounting-Regulierung gemessen werden kann. Die untersuchten Einflüsse umfassen ein breites Feld, das von Kapitalmarktreaktionen, Steuerauswirkungen, Stakeholderverhalten und Arbeitsmarkteffekten bis zu Einflüssen auf die Umwelt reicht. Aktuelle Accountingforschung nutzt typischerweise Konzepte und Methoden diverser verwandter und fremder Forschungsfelder wie der Finance, dem Managerial Accounting, der Steuerlehre, der Wirtschaftsprüfung und der Psychologie.

Ein wesentlicher Teil der empirischen Accounting-Forschung kann der kapitalmarktorientierten Forschung zugeordnet werden. Diese greift auf an Kapitalmärkten beobachtbare Grössen und daraus abgeleitete Werte zurück, um die Auswirkungen von Accounting und Accounting-Regulierung zu messen. Solche beobachtbaren und abgeleiteten Grössen umfassen Aktienpreise, Kapitalkosten, Aktienpreisliquidität und Analystenabdeckung. Untersucht werden Accounting-relevante Ereignisse und Faktoren (vgl. Abb. 1).

Kapitalmarktorientierte Accounting-Forschung

Effekte		
• Liquidität	• Aktienpreise	• Kapitalkosten
• Analystenabdeckung	• Volatilität	• Aktienumsatz

Ereignisse	
• Einstellung des Reportings	• Finanzkrisen
• Änderung eines Accounting-Standards	• Reporting-Skandale (Enron)
• freiwillige und verpflichtende IFRS-Anwendung	

Faktoren		
• Qualität des Reportings	• Enforcement	• Earnings Management

Abbildung 1: Untersuchte Effekte, Ereignisse und Faktoren in der kapitalmarktorientierten Accountingforschung

Ein wichtiger Forschungsgegenstand ist die Änderung bestehender Accounting-Regeln. Dieses Ereignis eignet sich für die Untersuchung vielfältiger Zusammenhänge wie dem Einfluss von Accounting-Spielräumen auf Earnings Management, der Relevanz von Accounting-Regeln für Abschlussadressaten (Value Relevance) oder der Bedeutung von Accounting-Methoden bei Finanzkrisen (Kothari, 2001). Das erste Paper der Dissertation (Halberkann und Meyer, 2016) ordnet sich ein in diesen Forschungsstrang. Es untersucht den Wechsel des Goodwill-Accountings von einem Modell fortgeführter Anschaffungskosten auf eines reiner Impairments. Es wird der Einfluss des Wechsels auf das Accounting-Verhalten der betroffenen Firmen untersucht. Dazu wird die Korrelation zwischen Aktienpreisen und Accounting-Grössen vor und nach der Umstellung gemessen.

Ein weiteres wichtiges Thema in der aktuellen Accounting-Forschung ist die verpflichtende Anwendung der IFRS in der Europäischen Union im Jahr 2005. Sie bietet ein Setting, in dem der Einfluss der Offenlegung auf die Informationsasymmetrie ohne den problematischen Effekt der Selbstselektion gemessen werden kann. Dieser ist eine konzeptionelle Schwäche bestehender Forschung, die den Einfluss der freiwilligen Anwendung der IFRS untersucht. Die Ergebnisse sind jedoch nicht frei von Störfaktoren. Einerseits zeigen sie, dass die verpflichtende Einführung der IFRS mit einer Zunahme der Aktienpreisliquidität verbunden ist. Andererseits ist es schwierig, hierbei den Effekt der IFRS-Anwendung von dem der Durchsetzung (Enforcement) zu unterscheiden. Die Debatte kann als noch nicht abschliessend geklärt betrachtet werden. Das zweite Paper (Fiechter, Halberkann und Meyer, 2012) schliesst an die Debatte an und beleuchtet die andere Seite der Medaille: Es untersucht Firmen, die sich von den IFRS abwenden und wieder die lokalen Schweizer Accounting Standards, Swiss GAAP FER, anwenden. Die Ergebnisse dieses Papers können das Bild um den Nutzen der IFRS vervollständigen.

Der Einfluss der Offenlegung auf den Finanzmarkt ist ein zentrales Thema der empirischen Accounting-Forschung. Der Nachweis eines positiven Effektes hat dabei auch politische Bedeutung, indem er ein regulatorisches Instrument zur Hand gibt und – im Fall der IFRS – die Verankerung dieser in den EU-Richtlinien nachträglich rechtfertigt. Das dritte Paper der These (Halberkann und Widmer, 2015) geht einen Schritt weiter und widmet sich dem Wert von Industrie-spezifischen Empfehlungen zur Offenlegung, die IFRS-Anwender im Real-Estate-Sektor umsetzen. Es handelt sich dabei um Empfehlungen zur Offenlegung von Kennzahlen und Tabellen, die auf den IFRS-Jahresabschluss aufbauen und diesen um Informationen ergänzen, die für Abschlussadressaten in diesem Sektor relevant sind.

3 Fragestellungen

Die Studien befassen mit den übergeordneten Fragen, wie sich das Reporting-Umfeld auf die Berichterstattung von kapitalmarktorientierten Unternehmen auswirkt und wie diese wiederum Informationsasymmetrie und Kapitalkosten beeinflusst. Das Reporting-Umfeld wird als prägender Faktor der unternehmerischen Reporting-Politik betrachtet. Es ist nicht nur ein formgebendes Gefäss, sondern auch inhaltsbestimmend, indem es Anreize und Spielräume schafft.

Das Paper „*Goodwill Impairment, Earnings Management, and Unserious IFRS adoption – Are the Good Guys Better than the Bad?*" untersucht in einem ersten Schritt, ob Unternehmen, die hoher Unternehmenstransparenz verpflichtet sind (ernsthafte IFRS-Anwender), weniger Earnings Management betreiben als Unternehmen, welche die IFRS anwenden ohne die Absicht, ihre Transparenz zu erhöhen (unseriöse IFRS-Anwender). In einem zweiten Schritt untersucht die Studie, ob die Erweiterung buchhalterischer Spielräume von ernsthaften IFRS-Anwendern anders genutzt wird als von unseriösen. Der Zusammenhang von Transparenz und Earnings Management ist theoretisch nicht eindeutig. Einerseits könnten Unternehmen hohe Transparenz und wenig Earnings Management als Komplemente einsetzen, um von den positiven Effekten einer tieferen Informationsasymmetrie zu profitieren. Andererseits könnten Unternehmen mit hoher Transparenz häufiger in die Versuchung kommen, schlechte Geschäftsergebnisse zu beschönigen. Bestehende Forschungsergebnisse finden Belege für beide Hypothesen, wobei neuere Studien eher den ersten Erklärungsansatz stützen. Der erste Beitrag der Dissertation weitet die Untersuchung auf die Unterscheidung von unseriösen und ernsthaften Anwendern aus. So könnte es sein, dass für ernsthafte Anwender hohe Transparenz und wenig Earnings Management Komplemente darstellen, während unseriöse Anwender mit der Anwendung der IFRS in mehr Earnings Management flüchten.

Das Paper „*Being wrong on IFRS? On the Causes and Consequences of a Voluntary Turn Away from IFRS to Local GAAP*" untersucht, aus welchen Gründen Schweizer Unternehmen seit 2008 von den IFRS zurück zu den Swiss GAAP FER wechseln und welche Auswirkungen dieser Wechsel auf die Informationsasymmetrie hat. Bestehende Forschungsergebnisse belegen einen positiven Zusammenhang zwischen Aktienmarkt-Liquidität und verpflichtender Anwendung der IFRS in Ländern, die sich durch eine hohe Durchsetzung der Accounting-Regeln auszeichnen. Ein Einfluss der IFRS-Anwendung an sich lässt sich nicht eindeutig belegen. Zudem ist es unklar, ob dieselben Effekte nicht auch mit anderen Accounting Standards, welche das Prinzip der True and Fair View umsetzen, erreicht werden könnten. Ein solcher Standard ist in der Schweiz mit den Swiss GAAP FER vorhanden. Es wäre somit möglich, dass der Wechsel nicht zu einer Reduktion der Liquidität führt.

Paper 1 Halberkann, Meyer (2016)	Paper 2 Fiechter, Halberkann, Meyer (2012)	Paper 3 Halberkann, Widmer (2015)
H1: Firms with a high commitment to transparency engage in less earnings management with goodwill impairments than firms with a low commitment. **H2A**: Firms with high commitment to transparency do not increase earnings management using goodwill impairments following the adoption of the impairment-only approach. **H2B**: Firms with low commitment to transparency increase earnings management using goodwill impairments following the adoption of the impairment-only approach.	**H1**: Firms turning away from IFRS to Swiss GAAP reduce the level of accounting information disclosed. **H2**: A turn away from IFRS to Swiss GAAP does not decrease the firm's market liquidity. **H3**: The announcement of a turn away from IFRS to Swiss GAAP is not associated with negative stock returns.	**H1**: EPRA BRP figures provide information useful to investors. **H2**: Complying with EPRA BRP increases stock liquidity, reduces cost of capital, and increases analysts following. **H3A**: Firms expanding or planning to expand their investor basis are more likely to adopt EPRA BPR. **H3B**: Firms with strong stock market performance and firms expanding or planning to expand their investor basis comply the a greater extent with the EPRA BPR. **H4A**: The benefits of EPRA BPR compliance increase with its propagation in the European real estate sector. **H4B**: The negative effects from EPRA BRP non-compliance increase with its propagation in the European real estate sector.

Abbildung 2: Hypothesen

Im dritten Beitrag „*Beyond IFRS – How Firms Benefit from Industry-specific Reporting Guidance*“ wird untersucht, ob die Anwendung Industrie-spezifischer Reporting-Empfehlungen im europäischen Real-Estate-Sektor zu höherer Liquidität, tieferen Kapitalkosten und einer grösseren Analysten-Abdeckung führt. Der positive (negative) Zusammenhang zwischen Reporting-Qualität und Liquidität und Analysten-Abdeckung (Kapitalkosten) lässt vermuten, dass die Anwendung von Sektor-spezifischen Reporting-Empfehlungen mit hoher Qualität zu vergleichbaren positiven Effekten bei den anwendenden Unternehmen führt. Andererseits ist es unklar, ob im europäischen Real-Estate-Sektor, welcher schon von einem starken Reporting-Umfeld profitiert, die Anwendung zusätzlicher Empfehlungen zu beobachtbaren Effekten führt. Die EPRA-Empfehlungen haben sich im europäischen Real-Estate-Sektor schnell etablieren können. Das Paper untersucht, welche Faktoren die Anwendung begünstigen, wie sich die Verbreitung im Sektor auf die positiven Effekte auswirkt und ob diese auch auf die Nicht-Anwender übertragen werden.

4 Sample, Datenherkunft und Methoden

Die Samples bestehen aus Schweizer und europäischen Unternehmen. Bei Halberkann und Meyer (2016) besteht das Sample aus an der SIX Swiss Exchange notierten Schweizer Unternehmen, die ihre Rechnungslegung gemäss IFRS erstellen. Dies ergibt ein Sample von 91 Unternehmen vor Abzug von Firmen mit fehlenden Daten und 71 Unternehmen nach Abzug. Bei Fiechter, Halberkann, Meyer (2012) besteht das Sample der Wechsler aus allen Schweizer Unternehmen, die von 2008 bis 2012 ihre Rechnungslegung von den IFRS zu den Swiss GAAP FER umgestellt haben. Es handelt sich um 34 Unternehmen, wovon aufgrund fehlender Jahresberichte für einzelne Tests nur 26 verwendet werden können. Als Kontrollgruppen werden weitere Unternehmensgruppen gebildet. Bei Halberkann und Widmer (2015) besteht das Sample aus 112 börsennotierten europäischen Unternehmen aus dem Real-Estate-Sektor. Dieses setzt sich zusammen aus allen identifizierbaren börsennotierten Unternehmen in diesem Sektor abzüglich 9 Firmen, für welche die Jahresberichte nicht zugänglich sind.

Paper 1 **Halberkann, Meyer (2016)**	**Paper 2** **Fiechter, Halberkann, Meyer (2012)**	**Paper 3** **Halberkann, Widmer (2015)**
Sample		
• An der SIX Swiss Exchange notierte Schweizer Unternehmen, die IFRS anwenden	• An der SIX Swiss Exchange notierte Schweizer Unternehmen	• Börsennotierte europäische Unternehmen aus dem Real-estate-Sektor
Datenherkunft		
• Reuters, Bloomberg • Jahresberichte	• Reuters, Datastream, Bloomberg • Medienmitteilungen, Jahresberichte	• Reuters, Bloomberg, IBES • Jahresberichte, EPRA
Methoden		
• t-Test, Probit, OLS	• Diff-in-Diff, Probit, OLS	• OLS

Abbildung 3: Sample, Datenherkunft und Methoden

Die in den Beiträgen verwendeten Daten kommen aus verschiedenen Quellen. Marktdaten wie Aktienkurse wurden über die Bloomberg-Datenbank bezogen, Jahresabschlussinformationen über Datastream und Reuters und Angaben zur Analysten-Abdeckung und Analysten-Schätzungen über die I/B/E/S-Datenbank. Jedes Paper baut auf einen Satz spezifischer Daten auf, die von Hand erhoben wurden. Detaillierte Informationen zu Goodwill-Beständen, -Abschreibungen, -Impairments wurden aus den publizierten Jahresabschlüssen erhoben. Angaben zu den Gründen eines Wechsels von den IFRS zu Swiss GAAP FER wurden den jeweiligen Medienmitteilungen entnommen. Die für den Vorher-Nachher-Vergleich von Accounting-Informationen der Wechsler benötigten Daten kommen aus den

publizierten Jahresberichten und Medienmitteilungen. Real-Estate-spezifische Angaben wurden in den publizierten Jahresabschlüssen, in zusätzlichen im Jahresbericht offengelegten Abschnitten und in von der EPRA und Deloitte publizierten Berichten erhoben.

Die Papers wenden die in der empirischen Accounting-Forschung etablierten Methoden der univariaten und multivariaten induktiven statistischen Analyse an. Für die Untersuchungen zur Höhe der Goodwill-Impairments, der Liquiditätseffekte eines Wechsels von den IFRS zu Swiss GAAP FER, und dem Einfluss einer EPRA-Anwendung auf Liquidität, Kapitalkosten und Analystenabdeckung werden multivariate Regressionen geschätzt.

Die Untersuchungen zu den Einflussfaktoren eines Goodwill-Impairments, den Beweggründen für den Wechsel von den IFRS zu den Swiss GAAP FER sowie zu den Faktoren der Anwendung der EPRA-Empfehlungen wenden die Methoden der Probit- und Logit-Regression an. Diese erlauben eine der multivariaten Regression ähnliche Modellformulierung und -interpretation bei binären abhängigen Variablen.

Da es sich bei den Daten um Paneldaten handelt, werden zusätzlich oder ausschliesslich Regressionen mit nach Firmen geklusterten Residuen geschätzt. In Fiechter, Halberkann, Meyer (2012) wird zusätzlich eine Difference-in-Differences-Analyse geschätzt.

5 Ergebnisse

5.1. „Goodwill Impairment, Earnings Management, and Unserious IFRS Adoption – Are the Good Guys Better than the Bad?“

Der Beitrag zeigt, dass ernsthafte IFRS-Anwender notwendige Goodwill-Impairments teilweise um ein Jahr verzögern. Goodwill-Impairments sind bei diesen signifikant mit den Returns des aktuellen Jahres, jedoch auch mit denen des Vorjahres korreliert. Dieses Verhalten wird mit der Einführung der Impairment-only-Methode verstärkt. Sie zeigt weiter, dass unseriöse Anwender signifikant höhere inkorrekte Goodwill-Nicht-Impairments aufweisen als ernsthafte Anwender. Gleichzeitig legen die Resultate den Schluss nahe, dass unseriöse Anwender unabhängig von der Impairment-Methode mit Goodwill-Impairments Earnings Management betreiben. Insgesamt sind die „good guys“ somit besser als die „bad guys“, jedoch nur ein wenig.

5.2. „Being Wrong on IFRS? On the Causes and Consequences of a Voluntary Turn Away from IFRS to Local GAAP“

Das Paper zeigt, dass hohe administrative Kosten der IFRS-Berichterstattung, die steigende Komplexität der IFRS und der wahrgenommene tiefe Mehrwert der IFRS im Vergleich zu den Swiss GAAP FER in den Pressemitteilungen als Hauptgründe der untersuchten Firmen für ihren Wechsel von den IFRS zu den Swiss GAAP FER genannt werden. Die Ergebnisse in der Probit-Regression zeigen weiter, dass grosse und wachsende Unternehmen eher einen solchen Wechsel vollziehen als kleine und stagnierende. Insbesondere zeigt sich, dass Firmen mit hohem anteiligen Goodwill eher wechseln, was die Vermutung nahelegt, dass diese Firmen mit dem Wechsel das Risiko zukünftiger Goodwill-Impairments reduzieren möchten.

Der Vergleich der Jahresberichte vor und nach dem Wechsel lässt erkennen, dass die Firmen den Umfang und die Qualität der offengelegten Informationen nach dem Wechsel substanziell reduzieren. Die Anzahl der Seiten im Anhang, die Informationen zur Segmentberichterstattung und die Audit-Gebühren sind nach dem Wechsel tiefer.

Die Untersuchungen finden keine Belege dafür, dass der Wechsel von den IFRS zu den Swiss GAAP FER die Liquidität reduziert. Dieser Befund ist nicht konsistent mit bestehenden Forschungsergebnissen, welche einen positiven Zusammenhang von Liquidität und Umfang sowie Qualität der Offenlegung finden. Es werden ebenfalls keine Belege für negative Aktien-Returns zum Zeitpunkt der Bekanntmachung des Wechsels gefunden. Insgesamt deuten die Ergebnisse darauf hin,

dass die umfangreichen IFRS-Regeln kleinen und mittleren Unternehmen nur wenig Mehrwert bieten.

5.3. „Beyond IFRS: How Firms Benefit from Industry-specific Reporting Guidance"

Der Beitrag findet Belege dafür, dass die freiwillige Anwendung standardisierter Industrie-spezifischer Reporting-Empfehlungen zusätzlich zur Veröffentlichung eines Jahresabschlusses gemäss IFRS einen Mehrwert bietet.

In einer Analyse des R^2 zeigt sich, dass eine Kombination von EPRA- und IFRS-Kennzahlen die Aktienkursvarianz am besten erklären können. EPRA Net Asset Value (NAV) und EPRA Triple Net NAV (NNNAV) haben einen höheren Erklärungsgehalt als das nach den IFRS berechnete Eigenkapital. Gleichzeitig dominiert der nach den IFRS berechnete Reingewinn den nach EPRA-Empfehlungen berechneten Gewinn pro Aktie.

Die Regressionsergebnisse zeigen, dass Firmen, die die EPRA-Empfehlungen umsetzen, tiefere Kapitalkosten und eine höhere Liquidität der Aktientitel haben sowie von mehr Analysten begleitet werden. Es zeigt sich weiter, dass die Absicht, Fremdkapital zu beschaffen, und der Anteil der EPRA-Anwender im Real-Estate-Sektor eine wichtige Rolle bei der Entscheidung spielen, die EPRA-Empfehlungen umzusetzen.

Zuletzt zeigen die Ergebnisse, dass sich die positiven Effekte der EPRA-Anwendung für das einzelne Unternehmen mit dem Anteil der EPRA-Anwender im Real-Estate-Sektor verstärken. Auf der anderen Seite übertragen sich die Effekte nicht auf Unternehmen, die die EPRA-Empfehlungen nicht umsetzen.

6 Diskussion und Ausblick

6.1. Methodische Überlegungen

In der empirischen Accountingforschung besteht die Hauptschwierigkeit darin, ein geeignetes Setting zu finden, das es erlaubt, Hypothesen zu testen. Eine Abkehr von den IFRS kann auf europäischer Ebene nicht untersucht werden, da die Anwendung verpflichtend ist. Die Schweiz ist ein glücklicher Sonderfall. Die Stichprobe ist jedoch hier klein und schränkt die statistischen Möglichkeiten ein. Das führt dazu, dass in Fiechter, Halberkann und Meyer (2012) die Probit-Analyse nicht erschöpfend erfolgen kann. Auch bei Halberkann und Widmer (2015) ist die Entwicklung und Verbreitung der EPRA-Empfehlungen im europäischen Real-Estate-Sektor Voraussetzung für die Untersuchung. Die Rahmenbedingungen und Umstände liegen bei der empirischen Accountingforschung mithin i.d.R. ausserhalb der Kontrolle des Forschers. Störfaktoren, gegenseitige Abhängigkeiten und versteckte Variablen können nicht ausgeschlossen werden und sind oft auch nicht vollständig bekannt. Sie müssen bei der Modellformulierung jedoch berücksichtigt werden, um die Hypothesen testen zu können.

In Fiechter, Halberkann und Meyer (2012) und Halberkann und Widmer (2015) besteht grundsätzlich ein Selbstselektionsproblem. Da Firmen eigenständig entscheiden, ob sie von den IFRS zu den Swiss GAAP FER wechseln oder die EPRA-Empfehlungen umsetzen, ist dieses Problem verbunden mit der Forschungsfrage. Es lässt sich nicht ausschliessen, dass Firmen, die annehmen, dass ein Wechsel sich nicht negativ auf ihre Aktienliquidität auswirkt, eher einen solchen Wechsel vollziehen. Diese Form der Selbstselektion ist jedoch nicht problematisch, da nicht untersucht werden soll, ob ein Wechsel im Allgemeinen zu keiner Abnahme der Liquidität führt, sondern ob dies im Speziellen für bestimmte Firmen beobachtet werden kann.

Auch für Halberkann und Widmer (2015) ist es nicht problematisch, wenn Unternehmen, die annehmen, dass eine Umsetzung der EPRA-Empfehlungen für sie vorteilhaft ist, eine Anwendung eher in Betracht ziehen. Es ist im Gegenteil sehr wahrscheinlich, dass solche Überlegungen eine Rolle bei der Anwendung der EPRA-Empfehlungen spielen. Der Beitrag versucht ebenfalls nicht, eine generelle Aussage zu machen, sondern möchte ein spezifisches Beispiel aufzeigen und untersuchen.

Eine problematische Form der Selbstselektion läge vor, wenn die Ergebnisse durch eine umgekehrte Kausalität erklärt würden. Dies wäre der Fall, wenn Firmen deshalb von den IFRS zu Swiss GAAP FER wechseln oder die EPRA-Empfehlungen umsetzen würden, weil ihre Aktienliquidität steigt. Eine solche umgekehrte Kausalität ist schwierig empirisch auszuschliessen. Die Einführung einer Inverser-Mills-Ratio oder die Schätzung von 2-Stage-Regressionen wie in den Papers können helfen. Es ist ebenfalls hilfreich, wenn eine umgekehrte Kausalität theoretisch ausgeschlossen werden kann, oder

zumindest unwahrscheinlich erscheint. Letzteres trifft bei den vorliegenden Beiträgen zu. Ein Einfluss höherer Aktienliquidität auf die Entscheidung, sich von den IFRS abzuwenden oder die EPRA-Empfehlungen anzuwenden scheint wenig plausibel.

6.3. Perspektiven für zukünftige Forschungsarbeiten

Im Bereich Earnings Management bei seriösen und unseriösen IFRS-Anwendern besteht einerseits Forschungsbedarf bei der Operationalisierung der Bestimmung beider Gruppen. In Halberkann und Meyer (2016) wurden die regulatorischen Massnahmen der SIX Swiss Exchange dafür eingesetzt. Es wäre interessant, diesen Ansatz mit weiteren Börsen zu testen und zu validieren. Andererseits lässt sich die Forschungsfrage, ob seriöse IFRS-Anwender weniger Earnings Management betreiben als unseriöse, auf zahlreiche weitere Accounting-Regeln mit Ermessenspielräumen, wie der Bewertung von Finanzinstrumenten, dem Impairment von immateriellen Vermögenswerten und der Ertragsrealisierung ausweiten.

Bei Fiechter, Halberkann und Meyer (2012), wäre es interessant, den Einfluss einer Abwendung von den IFRS an weiteren Beispielen zu untersuchen. Eine eventuelle Einführung der IFRS für kleine und mittlere Unternehmen auf EU-Ebene wäre ein möglicher Untersuchungsrahmen, wenn es dazu kommen sollte. Ansonsten ist es schwierig, ein geeignetes Setting zu finden. Forscher mit Interesse an diesem Thema sollten in den nächsten Jahren auf jeden Fall die Augen offen halten.

Das Sample in Halberkann und Widmer (2015) umfasst den europäischen Real-Estate-Sektor. Zukünftige Forschungsarbeiten könnten die Untersuchungen auf weitere Sektoren ausdehnen. Auch hier ist die Identifikation eines geeigneten Settings entscheidend. Der Sektor sollte 2 Kriterien erfüllen: Es sollte sich um einen möglichst homogenen Sektor handeln, damit einheitliche Sektor-spezifische Reporting-Empfehlungen sinnvoll sind. Zudem sollte es sich nicht um einen Sektor handeln, der strenger, staatlicher Regulation zur Offenlegung unterliegt. Dies würde den Wert selbstregulatorischer Empfehlungen einschränken. Der Banken- sowie Versicherungssektor dürften ungeeignet sein. Denkbar wären der Landwirtschaftssektor, die Luftfahrtbranche, die Verlagsbranche, die Telekommunikationsbranche oder einzelne Subsektoren der Schwerindustrie.

Literaturverzeichnis zur Übersicht der Papers

Kothari, S. P. 2001. Capital Market Research in Accounting. *Journal of Accounting and Economics* 31: 105-231.

Oler, D. K., M. J. Oler, C. J. Skousen. 2010. Characterizing Accounting Research. *Accounting Horizons* 24 (4): 635-670.

Anhang 1: Lebenslauf

Persönliche Angaben

Name: Jérôme Halberkann

Geburtsdatum: 08.10.1984

Ausbildung

2003-2005: Studium der Sinologie an der Universität Zürich

2005-2008: Studium der BWL an der Universität Zürich; Abgeschlossen mit dem Bachelor of Arts

2008-2011: Studium der Rechnungslegung und Finanzen an der Universität St. Gallen; Abgeschlossen mit dem Master of Arts

2011-2016: Assistent und Doktorand am Lehrstuhl für Accounting der Universität Zürich

Anhang 2: Papers

Goodwill Impairment, Earnings Management, and Unserious IFRS adoption – Are the Good Guys Better than the Bad?

Jérôme Halberkann
University of Zurich

Conrad Meyer
University of Zurich

February 2016

ABSTRACT Empirical studies show that firms use managerial discretion to engage in earnings management. This paper investigates if serious and unserious IFRS adopters use goodwill impairments differently for this purpose. We find evidence indicating that serious adopters delay portions of goodwill impairment by one year. This behavior is accentuated with the adoption of the impairment-only approach. We further find that unserious adopters show significant higher incorrect goodwill non-impairments than serious adopters. Our results indicate that unserious adopters engage in earnings management with goodwill impairments regardless of the method for goodwill accounting.

JEL classification: G21, M41
Key words: Goodwill impairment, earnings management

1. Introduction

Much of the earnings management research has focused on whether accounting leeway leads to observable opportunistic accounting decisions. Accordingly, many studies investigate if changes in accounting standards, such as the introduction of the impairment-only approach for goodwill, are used to engage in earnings management (e.g. Beatty and Weber, 2006). The results of these studies are then used to assess the decision usefulness of the accounting changes and issue recommendations on future standard revisions.

Another strand of research investigates the causes and consequences of voluntary accounting disclosures. Studies have shown that firms voluntarily provide additional disclosure and that higher levels of disclosure are associated with higher liquidity and lower costs of capital in high enforcement environments (Christensen et al., 2013; Daske et al., 2008).

Overall, current research has found evidence indicating that, on the one hand, firms use accounting leeway to manage earnings and, on the other hand, firms also increase disclosure levels to benefit from the effects of higher transparency. This leads to the seemingly tautological question if firms that are committed to high levels of disclosure manage earnings less than firms that are not. High disclosure and low earnings management, however, don't go hand in hand for several reasons. First, both accounting behaviors are related to benefits that do not necessarily exclude each other. It is not a priori evident that firms who increase their transparency to benefit from higher stock liquidity and lower costs of capital shouldn't also seek the benefits of earnings management on the firm's stock performance. Second, earnings management is inherently difficult to detect –even with high transparency. Firms that seek to benefit from the positive effects of higher transparency can increase their disclosure levels without fearing that possible earnings management activities are detected. Third, high levels

of disclosure could arguably even increase earnings management as they could push the management to manipulate required disclosure that would otherwise adversely impact the firm or the management's interests.

Little is known about the relation of firms' commitment to transparency and their earnings management behavior. Daske et al. (2013) show that the benefits of higher disclosure levels through IFRS adoption are only observable for firms that have been identified as committed to high transparency. This points to an association of commitment to transparency and greater decision usefulness of the annual reports, which could be an indication that serious IFRS adopters manage earnings less. Still, there is only little and mixed direct evidence of different accounting behavior between firms with high and low commitment (e.g. Shaw, 2003; Mouselli et al., 2012). This paper attempts to investigate the firms' earnings management behavior with goodwill impairments in the presence of accounting leeway, by differentiating between firms with high and low commitment towards transparency. We contribute to current research by examining if the use of managerial discretion in goodwill impairment is different for label and serious IFRS adopters.

We investigate goodwill impairments because (i) previous literature found evidence indicating that goodwill impairments are used to manage earnings, (ii) goodwill impairments are difficult to verify and might therefore be used to manage earnings even by firms with high levels of disclosure, and (iii) the IASB adopted the impairment-only approach in 2005 which increased management leeway in the impairment decision, giving us a setting where we can identify possible differences between firms with high and low commitment concerning their reporting reaction to a change of accounting rules.

Identifying firms' commitment to higher levels of disclosure is difficult. To do so, we use publicly available information of the SIX Swiss Exchange to identify firms that have been

subject to disciplinary action by the exchange. We define these firms as unserious IFRS adopters, i.e. adopters that are not *committed* to increasing their disclosure levels.

We find evidence suggesting that firms that were identified to be unserious IFRS adopters use managerial discretion in goodwill impairment decisions is used opportunistically. For these firms, goodwill impairments are unrelated to the performance of the current or the past two periods and the impairments are recognized (not recognized) when not expected (when expected). We also find evidence suggesting that serious adopters delay portions of goodwill impairments by one year.

We further find that the adoption of the impairment-only approach for goodwill accounting has intensified the opportunistic use of managerial discretion related to goodwill impairment decisions by unserious adopters as well as the goodwill impairment delay by serious adopters.

The remainder of the paper is organized as follows. Section 2 outlines prior literature on goodwill impairment and earnings management as well as our hypotheses on the relation of firms' commitment to higher levels of disclosure and earnings management using goodwill impairments. Section 3 explains our research design. Section 4 describes our sample and Section 5 presents the empirical results. Section 6 concludes the paper.

2. Literature review and hypotheses

2.1 Goodwill impairment and earnings management

As a standard setter, the International Accounting Standards Board strives to develop financial reporting principles that best serve the informational needs of the stakeholders. In the past decade, it has largely either substituted cost-based measures with fair value-based measures or allowed both methods. While it is accepted that fair values can be more decision useful than cost-based measures –though debated for specific cases–, it is also known that fair

values come at the cost of increased management leeway when observable prices from active markets are not available (Jarva, 2009).

In 2005 the IASB adopted the impairment-only model for goodwill accounting, which replaced the unpopular depreciation model. It followed the lead of the FASB that adopted the impairment-only model with SFAS 142 already in 2001. The change from fixed depreciations to a periodic assessment of the value of recognized goodwill raised the question whether the increased management leeway reduces the decision usefulness of goodwill impairments or is even used for earnings management. Bens et al. (2011) find evidence consistent with the former. The latter concern is reinforced by the firms' general rejection of the amortization model for goodwill accounting and Ramanna (2008) findings showing that firms' lobbying support for SFAS 142 increase in their discretion potential under the impairment tests.

SFAS 142 allows impairment charges at the first application of SFAS 142 to be recognized through other comprehensive income. This gives the management the opportunity to anticipate impairment losses below the line to avoid future income reducing impairment charges. Beatty and Weber (2006) find evidence suggesting that firms use the leeway to anticipate impairment charges at the adoption of SFAS 142 and to accelerate or delay expense recognition. They show that the decision to recognize impairment charges below or above the line is affected by firms' equity market considerations. Firms' debt contracting, bonus, turnover, and exchange delisting incentives further affect their decision to accelerate or delay goodwill impairments. Other empirical findings also suggest expense delays of goodwill impairment (e.g., Hayn and Hughes, 2006; Chen et al., 2008; Li et al., 2011; Jarva, 2009). Hayn and Hughes (2006) show that goodwill write-offs lag behind the economic impairment by an average of three to four years. They find that available disclosures do not provide financial statements users with information to adequately predict goodwill write-offs. Chen et

al. (2008) also find evidence of the market leading goodwill impairments. Evidence for the usage of managerial discretion to avoid taking impairment losses is further found by Li et al. (2011) and Jarva (2009).

Managers' reporting decisions often appear to reflect self-serving behavior (Lewellen et al. 1996). Abundant prior literature investigates the factors and goals of the opportunistic usage of accounting leeway. The general conclusion is that institutional factors, the economic environment, and reporting incentives drive the decision to engage in earnings management (e.g., Burgsthaler et al., 2006; Evans et al., 2015; Badertscher, 2011). Managers' reporting decisions are affected by stock market performance, earnings targets, management compensation plans and debt covenants (Beatty and Weber, 2006; Ramanna and Watts, 2011). To manage earnings, managers engage in big bath accounting, income smoothing, and improper revenue recognition (Burgsthaler et al., 2006, Riedl, 2004). Variation in the factors lead to firms being more or less engaging in earnings management and thus having financial statements with more or less information value.

Literature on voluntary disclosure typically assumes that firms increase their disclosure levels to mitigate information asymmetries on the stock market. This strand of research focuses on the consequences, i.e. on the effects of higher disclosure on stock liquidity, costs of capital and analysts following, predicted by the theory (e.g. Francis et al., 2008; Leuz et al., 2008).

The relation between disclosure quality and earnings management has not been settled to date (Vladu and Cuzdriorean, 2013). Shaw (2003) finds that "firms with higher-quality disclosures use discretionary accruals to smooth earnings more aggressively than firms with low-quality disclosures". Lobo and Zhou (2001), on the contrary, find that earnings management is negatively related to corporate disclosure quality, i.e. firms with lower

disclosure ratings engage in more earnings management than firms with high ratings.

More recent research has found evidence supporting the results of Lobo and Zhou (2001). Mouselli et al. (2012) find a positive relation between accruals quality and disclosure quality. Also Jo and Kim (2007) find that disclosure frequency is inversely related to earnings management.

Research on the effects of IFRS adoption on liquidity has recently introduced the concept of differentiating firms by their *commitment* to higher levels of disclosure rather than by their actual adoption of a higher quality accounting standard. Following these lines, Daske et al. (2013) show that the benefits associated with the adoption of IFRS (cf. Christensen et al., 2013) are not exhibited by firms that adopt IFRS only in name, i.e. without the intention to provide higher quality disclosures. They find that only firms that have a high commitment towards transparency show increasing liquidity upon adoption of IFRS.

Focusing on the firms' commitment towards transparency rather than on disclosure quality may also help circumventing the difficulty of measuring disclosure quality, which may be the reason for previous mixed results.

2.2 Hypothesis Development

It has been criticized that the IASB introduced additional management leeway when adopting the impairment-only model for goodwill valuation in 2005. The valuation model requires significant judgment that is difficult to verify and may create further opportunities for earnings management (Carlin and Finch, 2011; Ramanna and Watts, 2011; Wines et al., 2007). IAS 26 requires the allocation of acquired goodwill to the cash generating units (CGU) that are expected to benefit from the synergies of the business combination, the estimation of future cash flows, and the computation of a risk adjusted discount rate. The range of possible

input values in these steps make goodwill impairment and non-impairment decisions difficult to verify for financial statement users and auditors. Firms can choose to allocate goodwill to well performing CGU or to more CGU than necessary, reducing the risk of big goodwill write downs. When estimating future cash flows, favorable scenarios can be overstated. Also, the risk adjusted discount rate is highly sensitive to small changes in the beta factor, the definition of the market portfolio, and the estimation of the risk free rate. In practice, little conformity exists in the selection of the discount rate (Comiskey and Mulford, 2010). Carlin and Finch (2010) find for Australian and New Zealand firms that only 25 percent of the disclosed discount rates fall in a range of 150 basis points around an estimate computed according to the capital asset pricing model (CAPM). 75 percent fall outside of the range. 42 percent of the disclosed discounting rates are as much as 250 basis points below the estimation of Carlin and Finch.

Ramanna (2008) finds that firms' lobbying support for the impairment-only approach in US GAAP increase in their discretion potential under the impairment tests. Accordingly, studies find evidence suggesting that the accounting leeway in the goodwill impairment decision is used to manage earnings. Firms' accounting treatment of goodwill is affected by equity market concerns, debt contracting and bonus (Beatty and Weber, 2006). Firms might use the discretion in goodwill impairments to engage in big bath accounting and earnings smoothing.

While it has been shown that firms use the leeway in accounting standards to engage in earnings management, it remains unclear if this behavior is a substitute of or a complement to higher disclosure levels. On the one hand, firms with high disclosure levels might engage in more earnings management than firms with low levels as –transparency being high– bad information is more likely to be disclosed for the former than for the latter. On the other hand,

firms seeking the benefits associated with higher disclosure levels might undermine these effects if engaging in too much earnings management.

Existing studies have found mixed evidence pointing rather at a negative association of disclosure quality and earnings management (e.g. Mouselli et al., 2012; Lobo and Zhou, 2001; Francis et al., 2008 vs. Shaw, 2003; Jans et al., 2005). A major obstacle to overcome when empirically investigating the association is the difficulty to measure disclosure quality. As companies may provide boilerplate reporting disclosures with little value for the user, the quantity of disclosure is a poor measure for disclosure quality. Daske et al. (2013) introduce the concept of serious and label IFRS adopters, which they determine by using firm characteristics, accruals quality, and the firm's information environment, thus circumventing the aforementioned difficulties of measuring disclosure quality. They show that firms adopting IFRS as part of a strategy to increase their commitment to transparency (that is serious adopters) exhibit an increase in liquidity and a decline in costs of capital, whereas firms adopting IFRS only in name (that is label adopters) do not. Daske et al. (2013) differentiate between serious and label adopters to examine the capital market effects of IFRS adoption. This differentiation can also be used to analyze differences in accounting behaviors: Firms are likely to engage less in earnings management when serious about their commitment to transparency compared to firms that are not. We, thus, formulate our first hypothesis as follows:

H_1: Firms with a high commitment to transparency engage in less earnings management with goodwill impairments than firms with a low commitment.

We further expect that firms with high commitment to transparency will not increase their earnings management behavior following the adoption of the impairment-only approach,

whereas firms with low commitment will do so. We thus formulate the following hypotheses:

H_{2A}: Firms with high commitment to transparency do not increase earnings management using goodwill impairments following the adoption of the impairment-only approach.

H_{2B}: Firms with low commitment to transparency increase earnings management using goodwill impairments following the adoption of the impairment-only approach.

3. Research design

Purchased goodwill is the difference between the book value of the acquired net assets and the acquisition price paid. On an efficient market, the price paid reflects the discounted net cash flows of the acquiree. Upon acquisition, the acquirer has to allocate the goodwill to the CGU that benefit from the synergies of the business combination. In the years following the acquirer has to annually perform an impairment test by comparing the recoverable amount of the CGU –which is the higher of its fair value less costs to sell and its value in use– and the book value of the CGU. If the book value exceeds the recoverable amount, the goodwill is impaired. Goodwill impairments are therefore related to the performance of the reporting entity. High performance reduces the risk of goodwill impairments and low performance increases the risk. As goodwill is allocated on the CGU level goodwill impairments and firm performance might only be coupled loosely if the CGU perform individually better than the company as a whole, resulting in possible goodwill impairments when the overall performance is good or goodwill non-impairments when the overall performance is bad. We assume that in the cross section the correlation between goodwill impairments and company performance is negative. We therefore include the stock return ($\Delta Price$) as our first

explanatory variable for goodwill impairments (*Imp* and *DImp*).

A timely impairment of goodwill results in a high correlation of goodwill impairments and *ΔPrice*. If goodwill impairments are delayed, we should observe a low correlation between impairments and the current performance and a high correlation between impairments and prior years' performances. Hayn and Hughes (2006) show that there exists a time lag between goodwill write-offs and the *economic* impairment of goodwill. They measure an average lag of three to four years. For about one-third of the firms the lag even reaches six to ten years. Going back to three or more years would reduce our sample size considerably. For this reason we include the current returns and the returns for the previous two years.

Goodwill impairments and the firm's book-to-market ratio are related in a similar manner. While not necessarily reflecting the ratio on the CGU level, the firm's book-to-market ratio should on average be correlated with goodwill impairments. We therefore include the dummy variable *Exp*, which is equal to 1 if the firm's market value is below the book value and equal to 0 if the market value is above.

To measure the incentives to manage earnings, we include the dichotomous variables *Loss* and *DecrNi*. *Loss* equals 1 for firm years with a negative net income and 0 otherwise; *DecrNi* equals 1 for firms years where the current net income before goodwill impairment is lower than the net income of the previous year and 0 otherwise.

The base regressions for *Imp* being the goodwill impairment scaled over total goodwill and *DImp* being an indicator variable for goodwill impairments are:

$$Imp_{it} = \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} + \beta_6 Size_{it} + \beta_7 Loss + \beta_8 DecrNi + \beta_9 ROE + \varepsilon_{it} \quad (1)$$

$$DImp_{it} = \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it}$$

$$+ \beta_6 Size_{it} + \beta_7 Loss + \beta_8 DecrNi + \beta_9 ROE + \varepsilon_{it} \quad (2)$$

Reversing goodwill impairments are not permitted in IFRS. The variable *Imp* can therefore be considered as a left-censored variable. To account for this, we estimate a tobit-regression for model (1) and its derivatives. For model (2) and its derivatives we estimate a probit-regression.

To investigate if serious and unserious IFRS adopters engage differently in earnings management we interact all variables of equation (1) and (2) with the dummy variable *Label* that equals one for firms that we identified as unserious IFRS adopters and zero otherwise:

$$\begin{aligned} Imp_{it} = {} & \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} \\ & + \beta_6 Size_{it} + \beta_7 Loss_{it} + \beta_8 DecrNi_{it} + \beta_9 ROE_{it} + Label_{it}[\beta_{20} + \beta_{21} GW_{it} + \\ & \beta_{22} Exp_{it} + \beta_{23} \Delta Price_{it} + \beta_{24} \Delta Price\_t\text{-}1_{it} + \beta_{25} \Delta Price\_t\text{-}2_{it} + \beta_{26} Size_{it} + \\ & \beta_{27} Loss_{it} + \beta_{28} DecrNi_{it} + \beta_{29} ROE_{it}] + \varepsilon_{it} \end{aligned} \quad (3)$$

and

$$\begin{aligned} DImp_{it} = {} & \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} \\ & + \beta_6 Size_{it} + \beta_7 Loss_{it} + \beta_8 DecrNI_{it} + \beta_9 ROE_{it} + Label_{it}[\beta_{20} + \beta_{21} GW_{it} + \\ & \beta_{22} Exp_{it} + \beta_{23} \Delta Price_{it} + \beta_{24} \Delta Price\_t\text{-}1_{it} + \beta_{25} \Delta Price\_t\text{-}2_{it} + \beta_{26} Size_{it} + \\ & \beta_{27} Loss_{it} + \beta_{28} DecrNi_{it} + \beta_{29} ROE_{it}] + \varepsilon_{it} \end{aligned} \quad (4)$$

To investigate the effects of the impairment-only approach on earnings management, we introduce a second dummy variable, *IoA*, which equals one for the years after the adoption of the impairment only approach and zero for the years before. We interact these *Label* and *IoA* with all explanatory variables of the base regression. This permits us to estimate the effects separately for all four groups of observations being:

i. Unserious adopters before impairment-only approach,

ii. Serious adopters before impairment-only approach,

iii. Unserious adopters after impairment-only approach,

iv. Serious adopters after impairment-only approach.

To differentiate serious from unserious IFRS adopters, Daske et al. (2013) use firm characteristics, the magnitude of accruals relative to operating cash flow, and the number of analysts following a firm. Their approach relies on a number of assumptions concerning the influence of specific firm characteristics on the accounting behavior and the measurement of the appropriate accruals. We adopt the approach of Fiechter et al. (2014), which relies on the stock exchange as an external appraiser of the firms' behavior. We collect all press releases of the SIX Swiss Exchange issued between January 2004 and December 2013 and screen them for releases concerning investigations, reprimands, punitive fines, and other sanctions. We define as label adopters firms that have been (i) investigated on accounting issues, management transactions, or ad hoc disclosures, or (ii) that have been subject to regulatory action such as reprimands and punitive fines. All other firms are defined as serious adopters.

Interacting the base regression with *IoA* and *Label* results in the following regression models:

$$\begin{aligned} Imp_{it} &= \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} \\ &+ \beta_6 Size_{it} + \beta_7 Loss_{it} + \beta_8 DecrNI_{it} + \beta_9 ROE_{it} + IoA_t[\beta_{10} + \beta_{11} GW_{it} \\ &+ \beta_{12} Exp_{it} + \beta_{13} \Delta Price_{it} + \beta_{14} \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} + \beta_{16} Size_{it} \\ &+ \beta_{17} Loss_{it} + \beta_{18} DecrNi_{it} + \beta_{19} ROE_{it}] + Label_{it}[\beta_{20} + \beta_{21} GW_{it} + \beta_{22} Exp_{it} \\ &+ \beta_{23} \Delta Price_{it} + \beta_{24} \Delta Price\_t\text{-}1_{it} + \beta_{25} \Delta Price\_t\text{-}2_{it} + \beta_{26} Size_{it} + \beta_{27} Loss_{it} \\ &+ \beta_{28} DecrNi_{it} + \beta_{29} ROE_{it}] + \varepsilon_{it} \end{aligned} \quad (5)$$

and

$$DImp_{it} = \beta_0 + \beta_1 GW_{it} + \beta_2 Exp_{it} + \beta_3 \Delta Price_{it} + \beta_4 \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it}$$
$$+ \beta_6 Size_{it} + \beta_7 Loss_{it} + \beta_8 DecrNI_{it} + \beta_9 ROE_{it} + IoA_t[\beta_{10} + \beta_{11} GW_{it}$$
$$+ \beta_{12} Exp_{it} + \beta_{13} \Delta Price_{it} + \beta_{14} \Delta Price\_t\text{-}1_{it} + \beta_5 \Delta Price\_t\text{-}2_{it} + \beta_{16} Size_{it}$$
$$+ \beta_{17} Loss_{it} + \beta_{18} DecrNI_{it} + \beta_{19} ROE_{it}] + Label_{it}[\beta_{20} + \beta_{21} GW_{it} + \beta_{22} Exp_{it}$$
$$+ \beta_{23} \Delta Price_{it} + \beta_{24} \Delta Price\_t\text{-}1_{it} + \beta_{25} \Delta Price\_t\text{-}2_{it} + \beta_{26} Size_{it} + \beta_{27} Loss_{it}$$
$$+ \beta_{28} DecrNi_{it} + \beta_{29} ROE_{it}] + \varepsilon_{it} \quad (6)$$

where

Imp = goodwill impairment divided by the amount of goodwill at the beginning of the year;

DImp = a dichotomous variable equal to one if the firm recognized a goodwill impairment during the year;

GW = the amount of goodwill divided by total assets at the beginning of the year;

Exp = dichotomous variable equal to one if the book value of equity exceeds the market value of equity;

Ret = the stock market value of common stock at the end of the period minus the value at the beginning scaled over the value at the beginning;

Ret_t-1 = lagged *Ret*;

Ret_t-2 = lagged *Ret_t-1*;

Size = the natural logarithm of total assets at the beginning of the year;

Loss = a dichotomous variable equal to one if net income before goodwill impairment is negative and equal to zero otherwise;

DecrNi = a dichotomous variable equal to 1 if net income before goodwill impairment

is lower than net income of the previous period;

ROE = net income before goodwill impairment over net equity;

IoA = a dichotomous variable equal to one for the years after 2005 and to zero for the years before 2005;

Label = a dichotomous variable equal to one if the SIX Swiss Exchange reproofed, fined or sanctioned the firm between 2004 and 2013.

We collect accounting data from the Thomson Reuters Database and stock market data from the Bloomberg database. Detailed information on goodwill shown in is hand collected from the firms' financial statements.

4. Sample selection and sample description

The starting sample consists of 318 firms quoted on the Swiss stock exchange identified from Thomson Reuters. We exclude 130 firms not applying IFRS, 95 firms that were not publicly traded in the two years before and after the adoption of the impairment-only approach, and 2 firms, which have a main stock exchange different from the SIX Swiss Exchange. This yields a sample of 91 firms with potentially 364 firm years. We further exclude 36 firm years due to missing data and 59 firm years with zero goodwill in the firm's balance sheet. This gives us a final sample of 73 firms with 269 observations for the regression analysis (Table 1).

Table 2 reports the descriptive statistics of goodwill before and after the adoption of the impairment-only approach in 2005. The average amount of goodwill increased by 35 percent in the sample subsequent to the adoption, while average goodwill impairments decreased by 43 percent. Total goodwill amortizations and impairments in the years 2003 and 2004 are the tenfold of goodwill impairments in the years 2006 and 2007. The distribution shows that

goodwill impairments are rare – after 2005 as well as before: in approximately 75 percent of the firm-years no goodwill impairments were recognized.

[TABLE 2]

The allocation of goodwill to CGU has been introduced in IAS 36 with the adoption of the impairment-only method in 2005. Statistics on the two last variables of panel B are therefore only available for the years 2006 and 2007 in our sample. Goodwill is allocated to a median number of 3 CGU in the sample. 25 percent have allocated goodwill to 4 or more CGU. As much as 28 percent (CHF 335 mio. of CHF 1,190 mio.) of goodwill is not allocated to any CGU. This is surprisingly high. The distributional statistics show, however, that this high volume can be attributed to the top 1 percent of our sample, holding large amounts of goodwill.

Table 3 reports the descriptive statistics of the regression variables of equations (2) and (3). Label adopters account for 28 percent of the observations. Goodwill represents on average 11 percent of total assets in the sample. Goodwill impairments were recognized in 22 percent of the firm years. Average goodwill impairments amount to 5 percent of total assets. In 17 percent of the observations goodwill impairments were expected, i.e. the book value of equity was higher than the market capitalization of the firm (*DImp* equals 1). With 24 percent stock market returns on average and 19 percent in the median, firms were performing well in the sample period. Losses were recognized for 11 percent of the firm-years. For 26 percent of the firm-years net income before goodwill impairments was lower than the net income of the previous period, which is rather low and reflects the positive stock market returns of the sample period.

The firms' average (median) of total assets is CHF 1,500 mio. (1,300 mio.). 50 percent of the firms have total assets between 345 and 4,500 mio. Our sample is thus covering medium companies as well as large companies.

[TABLE 3]

Panel A of Table 4 reports goodwill, goodwill impairments, and goodwill amortization separately for label adopters and serious adopters. It shows that both groups have higher goodwill positions and lower goodwill impairments under the goodwill impairment-only model. For label adopters, goodwill increases by 30 percent, while goodwill impairments decrease by 34 percent. On a like-for-like basis (i.e. comparing the impairment of 2006-2007 with the hypothetical impairment that would have resulted if the impairment rate stayed the same) goodwill impairments have decreased by 64 percent. For serious adopters, the amount of goodwill increased by 39 percent and goodwill impairments decreased by 36 percent (75 percent on a like-for-like basis).

These descriptive figures say little about the usage of management leeway to avoid goodwill impairments. Factors related to the firms' financial positions affect goodwill impairments and could explain the observed decreased impairments as well the counterintuitive greater changes for the serious adopter group. Before we dive into a detailed analysis to account for these factors in the next section, we tackle the issue by defining two broad categories of goodwill impairments. We categorize impairment decisions as correct (incorrect) if the stock returns of the current and the two previous periods were negative (positive). Non-impairments are classified as correct (incorrect) if the current and the two previous periods were positive (negative). This is a rather simple approach but gives a first impression of earnings management in the sample. We use stock returns to reduce feedback

loops between goodwill impairments and financial statement variables such as net income or ROE.

Panel B of Table 4 reports the percentage of correct and incorrect goodwill impairments and non-impairments for label and serious adopters. For the label adopter group, 2 percent (8 percent) had recognized correct (incorrect) goodwill impairments versus 4 percent (14 percent) in the serious adopter group. The difference between label and serious adopters is not statistically significant (*t*-statistics equal -1.05 and 1.48 respectively). Correct non-impairments are identified for 25 percent and 23 percent of the observations in the label and serious adopter groups respectively. The difference is not statistically significant. Incorrect non-impairments amount to 8 and 2 percent of the observations in the label and serious adopter groups respectively. The difference is statistically significant at the 5 percent level. This indicates that compared to serious adopters label adopters more often do not recognize goodwill impairments when the goodwill is economically impaired. Observing statistically significant differences for incorrect goodwill non-impairments does not come as a surprise. It confirms evidence of existing studies indicating that firms delay goodwill impairments.

[TABLE 4]

Our methodology to categorize impairments and non-impairments as correct and incorrect does not capture all observed impairments and non-impairments as the classification criteria require stock returns to be either positive or negative for 3 consecutive years. I.e. time series with mixed stock performance are neither categorized as correct nor as incorrect. Impairments account for 21 percent of the observations in the label adopter group and for 20 percent in the serious adopter group. This means that 51 percent (7 percent) of impairments and 59 percent (69 percent) of non-impairments have not been assigned to one of the two categories,

"correct" and "incorrect", for the label adopter group (serious adopter group). Given the intrinsic difficulty of verifying the impairment decision we consider these numbers as rather low.

Overall the descriptive statistics show that goodwill has increased and goodwill impairments decreased after the adoption of the impairment-only model in 2005. Preliminary results indicate that label adopters show statistically higher incorrect goodwill non-impairments than serious adopters.

5. Empirical results

5.1 Earnings management of serious and unserious IFRS adopters

Table 5 reports the regression results of equations (3) and (4). The regressions are reported in 2 columns each. The coefficients of the base model are reported in columns 1.1.a, 1.2.a, 2.1.a, and 2.2.a; the coefficients of the interacted variables are reported in columns 1.1.b, 1.2.b, 2.1.b, and 2.2.b.

[TABLE 5]

The regression results show that the amount of goodwill is weakly negatively correlated with goodwill impairments for label adopters. Existing studies find mixed results on the effect of the proportion of goodwill in the books on goodwill impairments. Hamberg et al. (2011) find a negative correlation in their OLS regression and no significant correlation in their probit regression.

For serious adopters *Exp* is statistically not significant. This indicates that *Exp* is either a poor variable for measuring the economic goodwill impairment, or that necessary goodwill impairments are not timely recognized by serious adopters. When interacting *Exp* with *Label*

the coefficient is negative when not including firm and year fixed effects (-0.128, *t*-statistic = -2.38) indicating that unserious adopters engage in earnings management by not impairing goodwill when due or impairing goodwill when not due. The effect, however, disappears with the inclusion of firm and year fixed effects.

The coefficient of *Ret* is negative in the base regressions (-0.068, *t*-statistic = -1.68; -0.095, *t*-statistic = -2.11). This is consistent with serious adopters recognizing goodwill impairments when the goodwill is economically impaired. *Ret_t-1* is, however, also negative (-0.059, *t*-statistic = 2.43; -0.109, *t*-statistic = -2.83) indicating that serious adopters delay some portions of goodwill impairments by one year. This is consistent with the results of Hayn and Hughes (2006), who show that there exists a time lag between goodwill write-offs and the economic impairment of goodwill. *Ret_t-2* is not significant. As we did not include returns of periods going back 3 years and more, we cannot test whether serious adopters delay goodwill impairments by 3 or more years.

The coefficient of *Ret* interacted with *Label* is significantly positive (0.081, *t*-statistic = 1.76; 0.126, *t*-statistic = 2.06) canceling out completely the coefficient of *Ret* in the base regression. For unserious adopters we therefore do not observe a correlation between performance and goodwill impairments. The same is true for *Ret_t-1*. *Ret-t-2* is not significant. Overall, goodwill impairments of unserious adopters are not correlated with returns, lagged returns or lagged-lagged returns. This indicates that goodwill impairments are either delayed by more than two years or that unserious adopters opportunistically use goodwill impairments for earnings management purposes unrelated to the performance which would cause the correlation to disappear.

The variables *Loss*, *DecrNi* and *ROE*, show a mixed picture. While the coefficient of *Loss* is positive and statistically significant in the model specification with year and firm fixed

effects –indicating timely loss recognition for serious adopters–, the coefficients of *DecrNi* and *ROE* are not consistent for unserious adopters.

The probit regression results show a similar picture concerning *Ret*, *Ret_t-1*, and *Ret_t-2*. For serious adopters *Ret* and *Ret_t-1* are correlated with goodwill impairments, whereas for unserious adopters this correlation vanishes. Differences are observable for the coefficient of *GW*, which becomes positive indicating that unserious adopters are more likely to impair when the proportional goodwill is high. *DecrNi* becomes significant and negative in the base regression when not including firm and year fixed effects. *ROE* loses its significance in all variants.

Overall, the evidence indicates that serious adopters delay goodwill impairments up to one year with portioned being timely impaired. Unserious adopters on the contrary seem to either delay goodwill impairments by more than two years or use the impairments for earnings management purposes.

5.2 Reactions to the adoption of the impairment-only approach

Table 6 shows the regression results of equations (5) and (6). The regressions are reported in 3 columns each. Coefficients β_0 to β_9 of equation (5) and (6) are reported in column 1.1 and 2.1, respectively, coefficients β_{10} to β_{19} in column 1.2 and 2.2, respectively, and coefficients β_{20} to β_{29} in column 1.3 and 2.3, respectively.

[TABLE 6]

To investigate if the impairment-only approach changed the firms' impairment behavior we have to test linear combinations of the coefficients. Table 7 shows the wald and chi^2 tests

of the combined coefficients for *Exp*, *Ret*, *Ret_t-1*, *Ret_t-2*, *Loss*, *DecrNi*, and *ROE*. For serious adopters both *Ret* and *Ret_t-1* become statistically insignificant (-0.413, *f*-statistic = -1.71; -0.347, *f*-statistic = -2.63) in the post 2005 period in the tobit specification model. In the probit specification *Ret* becomes statistically insignificant (-1.462, chi^2-statistic = -1.14) whereas the coefficient of *Ret_t-1* even decreases. Returns of serious adopters, thus, lose their predictive value for goodwill impairments in the post 2005 period. This indicates that the impairment-only approach decreased the timely impairment recognition for serious adopters.

[TABLE 7]

For label adopters we first observe in table 6 that the coefficients of the return and lagged return variables interacted with *Label*, similarly to the results in table 5, cancel out the corresponding coefficients in the base regression (0.349, 0.368, and 0.116). The results of the tobit and probit regression confirm this observation: they indicate that there isn't any correlation observable between returns and goodwill impairments for label adopters. Returns and lagged returns haven't any predictive value for goodwill impairments for label adopters in the pre 2005 period (0.034, *f*-statistic = 0.04; -0.0.58, *f*-statistic = -0.40; -0.036, *f*-statistic = 0.20) and the post 2005 period (-0.065, *f*-statistic = -0.17; 0.022, *f*-statistic = 0.01; -0.371, *f*-statistic = -2.12). For label adopters we thus do not observe a negative correlation between performance and goodwill impairments.

Exp is negative and highly significant for unserious adopters in the tobit regression. In the probit regression, values equal to 1 for *Exp* predict perfectly the failure, i.e. non-impairment. This indicates that unserious adopters impair goodwill when no impairment is economically necessary. Label adopters manage goodwill impairments according to the given incentives causing the correlation of returns and goodwill impairments to disappear and the correlation

of *Exp* and goodwill impairments to become negative.

Taken together the results indicate that:

i. serious adopters delay portions of goodwill impairment by one year;

ii. this behavior is accentuated with the adoption of the impairment-only approach;

iii. label adopters do engage in earnings management independently of the goodwill impairment method;

iv. the good guys are therefore slightly better than the bad.

6. Conclusion

In this paper, we examine the use of goodwill impairments to engage in earnings management. We investigate if the use is different for serious and unserious IFRS adopters. We further investigate whether the use intensifies after the adoption of the impairment-only approach that introduced additional reporting leeway. We use press releases of the SIX Swiss Exchange on investigations, punitive fines, and other sanctions to identify serious and unserious adopters.

We find that serious adopters delay portions of goodwill impairment by one year. This behavior is accentuated with the adoption of the impairment-only approach. We further find that unserious adopters show significant higher incorrect goodwill non-impairments than serious adopters. Our results indicate that unserious adopters engage in earnings management with goodwill impairments regardless of the method for goodwill accounting. In this regard the good guys are better than the bad, but only a little.

References

Badertscher, B. A. 2011. Overvaluation and the Choice of Alternative Earnings Management Mechanisms. *The Accounting Review* 86 (5): 1491-1518.

Beatty, A., J. Weber. 2006. Accounting Discretion in Fair Value Estimates: An Examination of SFAS 142 Goodwill Impairments. *Journal of Accounting Research* 44 (2): 257-288.

Bens, D. A., W. Heltzer, B. Segal. 2011. The Information Content of Goodwill Impairments and SFAS 142. *Journal of Accounting, Auditing & Finance* 26 (3): 527-555.

Burgsthaler, D. C., L. Hail, C. Leuz. 2006. The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review* 81 (5): 983-1016.

Carlin, T. M. and N. Finch. 2010. Evidence on IFRS goodwill impairment testing by Australian and New Zealand firms. *Managerial Finance* 36 (9): 785-798.

_____ and _____. 2011. Goodwill Impairment Testing under IFRS – A false Impossible Shore. *Pacific Accounting Review* 23 (3): 368-392.

Chen, C., M. Kohlbeck, T. Warfield. 2008. Timeliness of impairment recognition: Evidence from the initial adoption of SFAS 142. *Advances in Accounting, incorporating Advances in International Accounting* 24: 72-81.

Christensen, H., L. Hail, C. Leuz. 2013. Mandatory IFRS Reporting and Changes in Reporting. *Journal of Accounting and Economics* 56: 147-177.

Comiskey, E. E., C. W. Mulford. 2010. Goodwill, triggering events, and impairment accounting. *Managerial Finance* 36 (9): 746-767.

Daske, H., L. Hail, C. Leuz, R. Verdi. 2008. Mandatory IFRS Reporting around the World: Early Evidence on the Economic Consequences. *Journal of Accounting Research* 46 (5): 1085-1142.

_____, _____, _____, _____. 2013. Adopting a Label: Heterogeneity in the Economic Consequences Around IAS/IFRS Adoptions. *Journal of Accounting Research* 51 (3): 495-547.

Evans, M. E., R. W. Houston, M. F. Peters, J. H. Pratt. 2015. Reporting Regulatory Environments and Earnings Management: U.S. and Non-U.S. Firms Using U.S. GAAP or IFRS. *The Accounting Review* 90 (5): 1969-1994.

Fiechter, P., J. Halberkann, C. Meyer. 2014. Being wrong on IFRS? On the Causes and Consequences of a Voluntary Turn Away from IFRS to Local GAAP. *Working Paper*.

Francis, J., D. Nanda, P. Olsson. 2008. Voluntary Disclosure, Earnings Quality, and Cost of Capital. *Journal of Accounting Research* 46 (1): 53-99.

Hamberg, M., M. Paananen, J. Novak. 2011. The Adoption of IFRS 3: The Effects of Managerial Discretion and Stock Market Reactions. *European Accounting Review* 20 (2): 263-288.

Hayn, C., P. J. Hughes. 2006. Leading Indicators of Goodwill Impairment. *Journal of Accounting, Auditing and Finance* 21: 223-265.

Jans, M., R. Orens, N. Lybaert. 2005. The Relation between Disclosure Quality, Income Smoothing and Earnings' Timeliness. In: "https://lirias.kuleuven.be/bitstream/123456789/264551/2/The+relation+between+disclosure+quality,+income+smoothing+and+earnings'+timeliness.pdf".

Jarva, H. 2009. Do Firms Manage Fair Value Estimates? An Examination of SFAS 142 Goodwill Impairments. *Journal of Business Finance & Accounting* 36 (9) & (10): 1059-1086.

Jo, H., Y. Kim. 2007. Disclosure frequency and earnings management. *Journal of Financial Economics* 84 (2): 561-590.

Leuz, C., A. Triantis, T. Y. Wang. 2008. Why do firms go dark? Causes and economic consequences of voluntary SEC deregistration. *Journal of Accounting and Economics* 45: 181-208.

Lewellen, W. G., T. Park, B. T. Ro. 1996. Self-serving behavior in managers' discretionary information disclosure decisions. *Journal of Accounting and Economics* 21: 227-251.

Li, Z., P. K. Shroff, R. Venkataraman, I. X. Zhang. 2011. Causes and consequences of goodwill impairment losses. *Review of Accounting Studies* 16: 745-778.

Lobo, G. J., J. Zhou. 2001. Disclosure quality and earnings management. *Asia-Pacific Journal of Accounting & Economics* 8 (1): 1-20.

Mouselli, S., A. Jaafar, K. Hussainey. 2012. Accruals quality vis-à-vis disclosure quality: Substitutes or complements? *The British Accounting Review* 44 (1): 36-46.

Ramanna, K. 2008. The implications of unverifiable fair-value accounting: Evidence from the political economy of goodwill accounting. *Journal of Accounting and Economics* 45: 253-281.

_____, R. L. Watts. 2011. Evidence on the Use of Unverifiable Estimates in Required Goodwill Impairment. *Working Paper*.

Riedl, E. J. 2004. An Examination of Long-Lived Asset Impairments. *The Accounting Review* 79 (3): 823 -852.

Shaw, K. W. 2003. Corporate disclosure quality, earnings smoothing, and earnings' timeliness. *Journal of Business Research* 56: 1043-1050.

Vladu, A., D. Cuzdriorean. 2013. Financial transparency and earnings management: insights from the last decade leading journals published research. *Revista de Contabilidad y Dirrección* 16: 129-160.

Wines, G., R. Dagwell, C. Windsor. 2007. Implications of the IFRS goodwill accounting treatment. *Managerial Auditing Journal* 22(9): 862-880.

Table 1. Sample selection

	# of firms	observations	percent
Firms listed at the SIX Swiss Exchange	318		**100%**
./. accounting standard not IFRS	(130)		
./. not publicly traded in 2004, 2005, 2006 and 2007	(95)		
./. SIX not main stock exchange	(2)		
	91	364	**29%**
./. missing data		-36	
./. no goodwill		-59	
= **sample for regression analysis**	**73**	269	**23%**

This table outlines the sample selection process. The sample firms are initially identified from Thomson Reuters. We exclude: 130 firms not applying IFRS, 95 firms that were not traded in 2004, 2005, 2006 and 2006, and 2 firms with a main stock exchange different from the SIX Swiss Exchange. This yields a sample of 91 firms with 364 observations. We further exclude 26 observations du to missing data and 59 observations with zero goodwill in the firm's balance sheet. This gives us 269 obeservations of 73 firms for the regression analysis.

Table 2. Goodwill impairment

Panel A: Descriptive statistics of 2003 and 2004 (in mio. CHF if not stated otherwise)

Variable	N	Mean	p1	p25	Median	p75	p99	Std. dev.
Goodwill	132	881.57	0.10	12.48	82.48	310.67	25718.00	3471.42
Goodwill amortizements	132	62.98	0.00	1.53	6.84	26.22	1571.00	221.14
Goodwill impairments	132	13.26	0.00	0.00	0.00	0.30	280.00	45.34
Goodwill additions	132	91.53	0.00	0.00	0.00	5.04	1315.00	450.34
Goodwill disposals	132	7.60	0.00	0.00	0.00	0.00	203.00	34.76
Goodwill transfers	132	3.44	-104.17	0.00	0.00	0.00	252.00	67.05
Goodwill fx effexts	132	-45.21	-1733.00	-2.00	0.00	0.00	121.31	261.72
other effects	132	7.79	-1.71	-0.67	0.00	0.00	98.00	28.42
Minimum amortizement period (years)	122	13.91	3.00	5.00	20.00	20.00	20.00	7.10

Panel B: Descriptive statistics of 2006 and 2007 (in mio. CHF if not stated otherwise)

Variable	N	Mean	p1	p25	Median	p75	p99	Std. dev.
Goodwill	137	1190.33	0.35	17.70	117.81	340.53	26990.00	3950.79
Goodwill amortizements	137	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Goodwill impairments	137	7.52	0.00	0.00	0.00	0.00	251.00	38.85
Goodwill additions	137	134.69	0.00	0.00	0.00	0.60	2581.00	680.26
Goodwill disposals	137	4.88	0.00	0.00	0.00	0.00	142.00	23.74
Goodwill tranfers	137	111.41	-121.25	0.00	0.00	2.07	3574.91	545.07
Goodwill fx effects	137	-25.81	-1171.00	-0.70	0.00	1.02	547.64	203.12
other effects	137	-1.07	-9.90	-1.09	0.00	0.00	8.16	4.63
Number of CGU (units)	125	2.92	1.00	2.00	3.00	4.00	7.00	1.63
Goodwill not allocated to CGU	115	335.11	0.00	0.00	0.00	0.00	11027.00	1734.27

This table reports descriptive statistics of goodwill before the adoption of the impairment-only approach in the IFRS (panel A) and after (panel B).

Table 3. Descriptive statistics

Variable	N	Mean	p1	p25	Median	p75	p99	Std. dev.
Label	269	0.28	0.00	0.00	0.00	1.00	1.00	0.45
Imp	269	0.05	0.00	0.00	0.00	0.00	1.00	0.19
DImp	269	0.22	0.00	0.00	0.00	0.00	1.00	0.41
GW	269	0.11	0.00	0.03	0.08	0.16	0.40	0.10
Exp	269	0.17	0.00	0.00	0.00	0.00	1.00	0.37
Ret	269	0.26	-0.58	-0.03	0.19	0.41	1.91	0.46
Ret_t-1	269	0.24	-0.86	-0.09	0.20	0.49	2.04	0.63
Ret_t-2	269	-0.04	-0.86	-0.32	-0.06	0.21	1.03	0.42
Size	269	21.17	15.93	19.66	21.00	22.23	28.07	2.27
Loss	269	0.11	0.00	0.00	0.00	0.00	1.00	0.32
DecrNi	269	0.26	0.00	0.00	0.00	1.00	1.00	0.44
ROE	269	5.49	1.00	3.00	5.00	8.00	10.00	2.87

This table reports descriptive statistics of the regression variables. *Imp* are total goodwill impairments divided by the amount of goodwill at the beginning of the year. *DImp* equals to 1 for years with goodwill impairment and 0 otherwise. *GW* is the amount of goodwill divided by total assets, both measured at the beginning of the year. *Imp_exp* is a dichotmous variable equal to 1 if the bookvalue of equity is higher than the market capitalization of the firm, both measured at the beginning of the year. *Ret*, *Ret_t-1*, and *Ret_t-2* are the stock returns for the current year, the previous year, and the year before the previous year, respectively. *Size* is the natural logarithm of the total assets, measured at the beginning of the year. *Loss* is a dichotomous variable equal to 1 if net income before goodwill impairment is negative. *DecrNi* is a dichotomous variable equal to 1 if the net income before goodwill impairment of the current year is lower than the net income of the previous year. *ROE* is the percentile of net income before goodwill impairments divided by the amount of goodwill at the beginning of the year.

Table 4. Goodwill impairments

Panel A: Goodwill impairments pre and post impairment-only (in mio. CHF)

	label adopter				serious adopter			
	N	Goodwill	Goodwill Impairment	Goodwill Amortization	N	Goodwill	Goodwill Impairment	Goodwill Amortization
2003-2004	47	597.43	11.33	49.46	131	677.95	9.30	46.22
2006-2007	48	775.29	7.45	0.00	134	942.59	5.95	0.00
Difference		177.86	-3.88	-49.46		264.64	-3.35	-46.22
Percent difference		29.77%	-34.27%	-100.00%		39.04%	-36.02%	-100.00%
like-for-like difference		na	-64.04%	na		na	-75.05%	na

Panel B: Impairment decisions by groups

	correct			incorrect		
	label adopter (N = 96)	serious adopter (N = 268)	Δ	label adopter (N = 96)	serious adopter (N = 268)	Δ
Impairment	2.08%	4.48%	-2.39%	8.33%	14.18%	-5.85%
			(-1.05)			(1.48)
Non-Impairment	25.00%	23.13%	1.87%	7.29%	1.87%	5.43% ***
			(0.37)			(2.57)

Panel A of this table reports average goodwill, goodwill impairments, and goodwill amortizations for the period before the adoption of the impairment-only model (years 2003 and 2004) and after (years 2005 and 2006). Columns 2 to 5 and 6 to 9 report the figures for the companies identified as label adopters and those identified as serious adopters respectively.

Panel B reports the impairment and non-impairment decision for label and serious adopters. Numbers in parentheses report the *t*-statistics of the differences. We define impairments as correct if the returns of the current and previous two period were negativ and as incorrect if these returns where positiv. Non-impairment are defined as correct if the returns of the current and the previous two periods were positive and as incorrect if these returns were negative. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 5. Goodwill impairment of serious and unserious IFRS adopter

Dependent variable		*Imp*				*DImp*			
Variables	Predicted sign	1.1.a Base regression	1.1.b Interacted with *Label*	1.2.a Base regression	1.2.b Interacted with *Label*	2.1.a Base regression	2.1.b Interacted with *Label*	2.2.a Base regression	2.2.b Interacted with *Label*
Intercept	?,?	-0.061	-0.020	0.437	-2.689	-4.148 **	1.109	-4.304 ***	1.089
		(-0.30)	(-0.06)	(0.25)	(-1.36)	(-3.35)	(0.42)	(-3.30)	(0.41)
GW	?,?	-0.070	0.104	0.351	-0.921 *	-0.404	3.612	-0.402	3.720 *
		(1.03)	(0.32)	(1.14)	(-1.83)	(-0.40)	(1.61)	(-0.39)	(1.67)
Exp	+,-	0.047	-0.128 **	-0.060	-0.121	-0.162	(omitted)	-0.153	(omitted)
		(1.03)	(-2.38)	(-0.52)	(-1.03)	(-0.52)	-	(-0.50)	-
Ret	-,+	-0.068 *	0.081 *	-0.095 **	0.126 **	-0.701 **	0.744 *	-0.665 **	0.720 *
		(-1.68)	(1.76)	(-2.11)	(2.06)	(-2.18)	(1.76)	(-1.99)	(1.70)
Ret_t-1	?,?	-0.059 **	0.061 **	-0.109 ***	0.100 **	-0.855 ***	0.620 **	-0.970 ***	0.672 *
		(-2.61)	(2.43)	(-2.83)	(2.43)	(-3.17)	(1.97)	(-3.20)	(1.95)
Ret_t-2	?,?	-0.024	-0.017	-0.068	-0.002	-0.744 *	0.335	-0.759	0.305
		(-0.52)	(-0.34)	(-1.52)	(-0.03)	(-1.73)	(0.59)	(-1.45)	(0.55)
Size	?,?	0.005	-0.001 **	-0.020	0.180 **	0.160 ***	-0.078	0.161 ***	-0.076
		(0.40)	(-0.07)	(-0.31)	(2.09)	(2.96)	(-0.65)	(2.96)	(-0.64)
Loss	+,-	0.096	-0.023	0.192 *	-0.242	0.773 *	-0.299	0.752 *	-0.282
		(1.44)	(-0.23)	(1.83)	(-1.65)	(1.95)	(0.42)	(1.93)	(-0.40)
DecrNi	+,-	-0.012	0.101 *	0.006	0.081	-0.508 *	0.593	-0.474	0.532
		(-0.34)	(1.86)	(0.17)	(1.53)	(-1.66)	(1.07)	(-1.60)	(1.00)
ROE	-,+	0.007	-0.006	0.023	-0.036 *	0.047	-0.010	0.047	-0.013
		(0.84)	(-0.68)	(1.42)	(-1.94)	(0.77)	(-0.08)	(0.78)	(-0.11)
Year fixed effects icluded		No		Yes		No		Yes	
Firm fixed effects included		No		Yes		No		No	
R^2		0.0863		0.5046		Pseud	0.1458	0.3412	
F-statistic		2.58***		-		Walcd	34.85***	36.43***	
N		269		269		N	261	261	

The table reports coefficient estimates and, in parentheses, *t*-statistics based on heteroskedasticity-robust standard errors clustered by firm (Rogers, 1993). Cloumns 1.1.a to 1.2.b report the tobit regression results of equation (2). Columns 2.1.a to 2.2.b report the probit regression results of equation (3) . See Table 2 for the definition of the explanatory variables. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 6. Goodwill impairments, impairment-only approach, and label adoption

Dependent variable		*Imp*			*DImp*		
Variables	Predicted sign	(1.1) Base regression	(1.2) Interacted with *IoA*	(1.3) Interacted with *Label*	(2.1) Base regression	(2.2) Interacted with *IoA*	(2.3) Interacted with *Label*
Intercept	?	-0.068	0.120	-0.044	-3.952 **	-0.348	1.118
		(-0.37)	(0.63)	(-0.12)	(-2.42)	(-0.15)	(0.42)
GW	?	0.019	-0.296	0.104	-0.650	0.606	3.955 *
		(0.12)	(-1.60)	(0.34)	(-0.44)	(0.28)	(1.73)
Exp	+	0.018	0.324	-0.147 **	-0.055	0.254	*(omitted)*
		(0.50)	(1.26)	(-2.32)	(-0.18)	(0.26)	-
Ret	-	-0.054	-0.048	0.071	-0.731 **	0.172	0.729
		(-1.21)	(-1.07)	(1.59)	(-2.08)	(0.35)	(1.47)
Ret_t-1	-	-0.076 ***	0.077	0.069 ***	-0.818 **	-0.394	0.721 **
		(-3.05)	(1.51)	(2.77)	(-2.53)	(-0.69)	(2.20)
Ret_t-2	-	-0.057	0.032	-0.050	-0.256	-1.068	0.581
		(-1.27)	(0.43)	(-0.78)	(-0.55)	(-1.22)	(0.77)
Size	?	0.005	-0.005	0.000	0.154 **	0.020	-0.072
		(0.46)	(-0.56)	(0.01)	(2.10)	(0.18)	(-0.59)
Loss	+	0.067	0.079	-0.042	0.804 *	-0.198	-0.272
		(1.00)	(0.65)	(-0.48)	(1.84)	(-0.23)	(-0.37)
DecrNi	+	-0.023	0.024	0.091	-0.414	-0.417	0.698
		(-0.57)	(0.63)	(1.64)	(-1.28)	(-0.76)	(1.28)
ROE	-	0.006	0.003	-0.010	0.053	-0.008	-0.028
		(-0.57)	(0.37)	(-0.62)	(0.85)	(-0.12)	(-0.19)
R^2		0.1898			Pseudo R^2	0.159	
F-statistic		1.83 **			Wald chi^2	56.36 ***	
N		269			N	261	

The table reports coefficient estimates and, in parentheses, *t*-statistics based on heteroskedasticity-robust standard errors clustered by firm (Rogers, 1993). Cloumns 1.1 to 1.3 report the regression results of equation (2). Columns 2.1 to 2.3 report the regression results of equation (3). See Table 2 for the definition of the explanatory variables. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 7. Linear combinations of the regression coefficients

	Tobit				Probit			
	pre 2005		post 2005		pre 2005		post 2005	
	serious	label	serious	label	serious	label	serious	label
Exp	-0.026	-3.034 ***	0.499	-2.510 ***	-0.055	(omitted)	(omitted)	(omitted)
	(-0.04)	(552.87)	(1.08)	(27.39)	(-0.25)	-	-	-
Ret	-0.314 *	0.034	-0.413	-0.065	-0.731 **	-0.002	-1.462	0.170
	(3.66)	(0.04)	(1.71)	(-0.17)	(-4.34)	(0.00)	(-1.14)	(0.23)
Ret_t-1	-0.427 ***	-0.058	-0.347	0.022	-0.818 **	-0.097	-1.212 **	-0.491
	(7.62)	(0.40)	(2.63)	(0.01)	(-6.39)	(-0.25)	(-5.40)	(1.18)
Ret_t-2	-0.152	-0.036	-0.487	-0.371	-0.256	0.325	-1.324	-0.491
	(0.64)	(0.20)	(2.34)	(2.12)	(-0.30)	(0.21)	(-2.42)	(1.42)
Loss	0.317	0.203	0.417	0.304	0.804 *	0.532	0.605	0.333
	(2.63)	(0.61)	(1.27)	(0.76)	(3.39)	(0.59)	(0.56)	(0.18)
DecrNi	-0.152	0.232	-0.255	0.129	-0.414	0.284	-0.831	-0.133
	(1.11)	(1.23)	(1.26)	(0.36)	(1.63)	(0.30)	(2.48)	(0.06)
ROE	0.033	0.017	0.032	0.016	0.053	0.025	0.045	0.017
	(1.26)	(0.12)	(0.59)	(0.17)	(0.73)	(0.04)	(0.20)	(0.02)

This table shows linear combinations of the regression coefficients (tobit and probit regression) in table 6, and, in parentheses, the *f*-statistics (chi²-statistics) of the combinations on the basis of the coefficients' variance-covariance matrix.

Being wrong on IFRS?
On the Causes and Consequences of a Voluntary Turn Away from IFRS to Local GAAP

Peter Fiechter,
University of Neuchatel

Jérôme Halberkann
University of Zurich

Conrad Meyer
University of Zurich

October 2014

ABSTRACT This paper investigates the causes and consequences of a voluntary turn away from IFRS to Swiss GAAP. As listed firms are permitted to switch from IFRS to Swiss GAAP in Switzerland, we can exploit this unique setting to analyze the reasons of a turn away, the changes in reporting, and its capital market effects. Prior literature on IFRS adoption (and other disclosure literature) generally finds an increase in liquidity with increasing levels of disclosure. Accordingly, turning away from IFRS should decrease liquidity. However, our empirical results from a difference-in-differences design do not support this prediction. We interpret this finding as indication that the extensive accounting rules and disclosure requirements under IFRS add little value to small- and medium-sized entities. This explanation is consistent with firms' statements in the press releases on their reasons to switch the accounting standard.

.

1. Introduction

The adoption of IFRS has generated a large body of research. Empirical findings generally suggest that IFRS adoption has positive effects on liquidity (e.g., Daske et al. 2008; Li 2010; Daske et al. 2013). However, Daske et al. (2008) show that the capital market benefits of IFRS adoption occur only in countries with strong enforcement and high incentives for transparent reporting. Furthermore, recent literature even questions whether the capital market benefits are attributable to IFRS adoption or concurrent changes in reporting enforcement (Christensen et al. 2013). Taken together, the literature on the (isolated) effects of IFRS on liquidity is not conclusive.[1] In addition, beside the literature on IFRS adoption, inferences on the link between disclosure and liquidity are typically drawn from settings where firms *increase* their disclosure level (e.g., Leuz and Verrechia 2000, Bushee and Leuz 2005; Balakrishnan et al. 2013).

To better understand the effects of IFRS on liquidity, and more generally, the link between disclosure and liquidity, we exploit a unique setting where firms turn away from IFRS. In Switzerland, since 2008, 34 out of 145 listed firms (23%) switched from IFRS to Swiss Accounting and Reporting Recommendations (Swiss GAAP), making use of a local particularity where a change from IFRS to Swiss GAAP is permitted. While Swiss GAAP has the same major reporting objective of a "true and fair view" as IFRS, both the degree of complexity and the number of accounting rules substantially differ across the two standards. This setting has two advantages: First, it permits us to investigate the effects of a *decrease* in disclosure level on liquidity in a less extreme scenario than a setting where firms cease to provide public disclosure, that is, "going dark" (Leuz et al. 2008). Second, the setting allows investigating the effect of a change in accounting standard, holding constant possibly

[1] See, for example, the discussion of Barth and Israeli (2013) on the findings of Christensen et al (2013).

confounding factors such as changes in enforcement, legal environment, and other institutional features.[2]

Our first set of tests examines the determinants of a turn away. We analyze stated reasons for the switch in firms' press releases. To infer on reasons not stated in the press releases, we further conduct a probit regression of the choice to switch on firm characteristics such as size, growth, profitability, and ownership structure, which previous literature identifies to drive accounting standard choices (e.g., Cuijpers and Buijink 2007; Leuz et al. 2008). Our second set of tests examines the consequences of the switch from IFRS to Swiss GAAP. To understand the extent of the change in firms' disclosure following a switch, we examine differences in the annual reports (e.g., number of pages in the notes to the financial statements) between IFRS and Swiss GAAP. Using a difference-in-differences design, we investigate the effect of a switch on liquidity. Finally, we examine stock returns at the announcement date.

The majority of the literature on IFRS adoption (and other disclosure literature) suggests a positive association between disclosure levels and liquidity. Accordingly, a switch from IFRS to Swiss GAAP should decrease liquidity. However, although the switch from IFRS to Swiss GAAP reduces the disclosure level (see Section 5.3), the principle "true and fair view" remains. To the extent that the lower disclosure levels meet investors' demand for disclosure, liquidity should not decrease. Similarly, the comparability effect is twofold: Switching from IFRS to Swiss GAAP reduces comparability with those firms continuing to report under IFRS but, at the same time, increases comparability with those 29 firms that never changed their accounting to IFRS (hereafter, "Swiss GAAP stayers"). Second, if investors perceive the *announcement* as indicating that the switching firm wants to obfuscate negative performance

[2] As firm switches occur at different points in time, our analysis is not clustered in calendar time, reducing concerns that confounding institutional changes or economic shocks (or both) primarily drive the results. In addition, our analyses reveal that the level of enforcement for Swiss GAAP is similar to IFRS.

by changing the accounting standard (Leuz et al. 2008), a switch from IFRS to Swiss GAAP has negative effects on stock returns. However, investors might reward the lower administrative costs to comply with Swiss GAAP compared to IFRS.

We measure liquidity with the proportional bid-ask spread, the percentage of zero returns, and the residual spread estimated from a regression of the bid-ask spread on return volatility, share turnover, and market value. We compare our liquidity measures before the announcement with three different points in time: after the announcement, at the release of the first annual report under Swiss GAAP, and as of April 2013 for long term effects. To correct for general trends and self-selection bias, we use an index, a size- and industry-matched, and a propensity score matched (PSM) control group. In addition, we exploit that certain firms never changed their accounting to IFRS, by using the Swiss GAAP stayers as an additional control group. To examine the effects on stock returns, we compute stock returns at the announcement of a switch. We compute the returns for three different event windows and correct raw returns with the control samples.

We find that the 34 switching firms frequently state the following reasons for a switch from IFRS to Swiss GAAP: High costs, rising complexity of IFRS, and no added transparency compared to Swiss GAAP. The results from the probit analysis show that large firms are less likely to switch. Notably, we find that firms with high proportions of goodwill relative to total assets are more likely to switch, consistent with firms avoiding the potential risk of future goodwill impairments. We find that the amount of disclosed information in the financial statements decrease after switching to Swiss GAAP, particularly the number of pages in the notes to the financial statements. Consistent with our findings from the probit analysis, all of the switching firms make use of the option under Swiss GAAP to set their goodwill off against equity. We further find that both the quantity and quality of the segment reporting decrease after a switch. Finally, our descriptive evidence reveals that audit fees

decrease while additional fees paid to audit companies increase, the latter possibly because of one-time implementation costs.

We do not find that the liquidity decreases by switching accounting standards. If anything, bid-ask spreads and the residual spreads decrease rather than increase after a switch from IFRS to Swiss GAAP. A possible explanation for the slight increase in liquidity could be that the switching firms make their reporting more comparable to their peers, that is, those firms that never changed to IFRS. We further find that firms exhibit negative stock returns after an announcement of a switch. However, the negative returns are neither significantly different than the returns of the control groups nor economically large.

Overall, our results show that switching firms do not experience a reduction in liquidity and only insignificant negative returns on the announcement date. In light of the conclusions drawn from various IFRS adoption (and other disclosure) studies, finding no negative economic consequences when turning away from IFRS is somewhat counterintuitive. We, however, interpret this finding as indication that the extensive accounting rules and disclosure requirements under IFRS add little value to small- and medium-sized entities. This explanation is also consistent with firms' statements in the press releases. An alternative explanation might be that the switching firms were simply "label adopters" (Daske et al. 2013), and thus, never experienced capital market benefits through IFRS adoption. However, (1) the rather high level of enforcement in Switzerland is likely to mitigate unserious application of IFRS, (2) our descriptive evidence documents that switching firms actually change their reporting, and (3) additional analyses suggest that, around IFRS adoption in 2005, the liquidity effects of switching firms are positive and comparable to firms that continue to apply IFRS. Therefore, adopting a label is unlikely to explain our findings. By providing evidence that—for certain firms—a turn away from IFRS does not necessarily induce negative economic consequences, the findings contribute to the discussion on whether

the current IFRS fit for small- and medium-sized firms, and more generally, to the discussion on the capital market effects of IFRS.

Our study has limitations. First, we have a small number of 34 treatment firms switching from IFRS to Swiss GAAP. This small number might introduce bias in favor of accepting the null hypothesis, that is, the switch has no economic consequences. However, as the tests on liquidity suggest a (significant) increase rather than a decrease, we can—despite the small number of treatment firms—reasonably conclude that the switch has no negative consequences on the liquidity of such firms. Second, the change in disclosure is *not* exogenous. That firms can choose to switch raises concerns about self-selection bias. We attempt to address that concern by using several control groups, in particular, a PSM control group as well as the Swiss GAAP stayers who chose not to adopt IFRS in 2005. However, we acknowledge that our setting has, besides its unique features, a major disadvantage compared to settings with plausibly exogenous shocks in disclosure (e.g., Bushee and Leuz 2005; Balakrishnan et al. 2013). Finally, as the switching firms are primarily small- and medium-sized entities, we caution from generalizing our findings to large internationally operating firms.

The remainder of the paper is organized as follows. Section 2 outlines the institutional background, the differences between IFRS and Swiss GAAP, prior literature on the link between disclosure and liquidity, and our hypotheses on the effects of a switch on both liquidity and stock returns. Section 3 explains the research design, Section 4 describes our sample, and Section 5 presents the empirical results. Section 6 concludes the paper.

2. Background and Hypotheses

2.1. Institutional Background

Unlike countries of the European Union, there is no implementation of IFRS in the Swiss law. For firms with quoted equity instruments, the SIX Swiss Exchange (SIX), which is the major stock exchange in Switzerland, requires the publication of financial statements prepared according to specific accounting standards depending on the segment to which the company is assigned. Figure 1 shows the percentage of application of the accounting standards IFRS, US GAAP, Swiss GAAP, and Swiss regulatory banking rules (FINMA) at the SIX from 2000 to 2012.

[Figure 1 here]

There are four segments at the SIX: the main standard, the domestic standard, the standard for investment firms, and the standard for real estate firms (SIX 2012). Firms in the main standard or in the standard for investment firms have to apply IFRS or US GAAP. In the domestic standard and the standard for real estate firms, Swiss GAAP is required. While the main standard contains 169 firms (as of 2013) including the large internationally operating firms, the domestic standard is designed to accommodate firms with local significance and contains 74 firms (as of 2013). Firms from the main standard can switch to the domestic standard and thus apply Swiss GAAP. Since 2008, 34 firms have taken this decision.[3]

The switch from the main segment to the domestic segment does not induce any legal consequences. In fact, firms in both segments are subject to the same regulation and regulatory authority, that is, the SIX Exchange Regulation and the Regulatory Board, respectively. In addition, the reporting requirements—other than the accounting standard—are

[3] The domestic standard contains also the 29 firms that decided not to change to IFRS in 2005. While our focus is on the 34 switching firms, we use the staying firms as control group.

not affected by a switch from the main to the domestic standard; for example, interim reporting, corporate governance reporting, or ad hoc publicity (SIX 2013). Finally, the level of enforcement does not substantially vary across main and domestic segment: 46 firms out of 195 (23.6%) in the main standard and 12 firms out of 48 (25.0%) in the domestic standard, respectively, are subject to regulatory action (i.e., investigation, reprimand, punitive fine, or other sanctions) between 2004 and 2013 (source: SIX Enforcement).[4] Overall, the Swiss setting allows investigating the effect of the change in accounting standard while holding other institutional factors constant.

2.2. Differences between IFRS and Swiss GAAP

Similarly to IFRS and US GAAP, Swiss GAAP is based on the principle "true and fair view". Whereas IFRS and especially US GAAP concretize this principle with extensive and detailed rules, Swiss GAAP rely more on general concepts without specifying the implementation and exceptions for special cases. Accordingly, Swiss GAAP comprises around 200 pages for 25 standards compared to over 2000 pages under IFRS for 38 standards and 25 interpretations.

A major difference between IFRS and Swiss GAAP is the speed of changes in the accounting rules. Changes of Swiss GAAP issued in 2009 do not exceed two pages (FER 2009). Since 2010, one new standard has been issued (FER 41) and another standard has been appended (FER 16). In the same time period, the International Accounting Standards Board (IASB) amended 14 Standards and issued 5 new Standards. Amendments of IFRS also tend to be more far reaching regarding to the stipulated accounting methods. The introduction of the impairment-only-approach for goodwill accounting, changes in the measurement of financial instruments with IFRS 9, changes in pension accounting, and the revision of revenue

[4] See Section 5.6 for further analyses on enforcement activities in Switzerland.

recognition show that fundamental accounting methods are regularly subject to substantial changes under IFRS.

The most important differences between IFRS and Swiss GAAP exist concerning goodwill accounting, pension accounting, and segment reporting. Under Swiss GAAP, goodwill is either (a) capitalized at cost and then amortized over its useful life (maximum of 20 years) with regular impairment tests, or (b) set off against equity at initial recognition (i.e., the acquisition date). The impairment-only-approach under IFRS where goodwill is capitalized and impaired only if necessary is not permitted under Swiss GAAP. If goodwill is set off against equity, the effects of a theoretical capitalization and amortization have to be disclosed in the notes to the financial statements.

Pension accounting under Swiss GAAP does not distinguish between defined contribution plans and defined benefit plans. Based on contracts, regulations, and legal requirements, a pension liability or a pension asset is recognized in the balance sheet. Any differences between the estimated liability or the estimated asset at the beginning and at the end of the reporting period are fully recognized in the income statement.

IFRS require information on operating segments, products and services, geographical areas, and major customers. For each reportable segment, an entity has to disclose a measure of profit or loss, a measure of total assets and liabilities, as well as other information such as depreciation, amortization, and additions to non-current assets. Under Swiss GAAP, the required segment disclosures are less comprehensive. For each business segment and geographical market, only total revenues must be disclosed. If business segments are not significantly different from each other, no segment information needs to be provided.

2.3. Prior Literature

Economic theory suggests a negative relation between disclosure levels and information asymmetry among market participants. As more relevant and faithful information become available with increased disclosure, uncertainty about the possible informational advantage of the counterparty in a buy or sell transaction is reduced. A reduction of the information asymmetry increases stock market liquidity and reduces the firms' cost of capital (e.g., Diamond and Verrecchia 1991).

Prior studies focus mainly on either cross-sectional differences in disclosure (e. g., Welker 1995; Botosan 1997; Lang et al. 2012) or on increases of accounting disclosure (e. g., Leuz and Verrecchia 2000; Bushee and Leuz 2005; Balakrishnan et al. 2013). The findings of the literature on mandatory IFRS adoption are based on both increased levels of disclosure and improvements in the institutional environments (e.g., tighter enforcement or implementation of insider trading regulations).

Botosan (1997) finds that higher levels of disclosure are associated with lower cost of equity for firms with low analyst following. Lang et al. (2012) document higher liquidity for firms with greater transparency. Transparency is measured with evidence for earnings management, accounting standards applied, quality of auditors, analyst coverage, and accuracy of analyst predictions. They also document lower implied cost of capital with increased liquidity.

Bushee and Leuz (2005) find that liquidity increases for firms newly compliant with enhanced reporting requirements. In addition, Balakrishnan et al. (2013) find that firms respond to an exogenous loss of information by voluntarily providing more disclosure, thereby improving liquidity.

The voluntary and mandatory adoption of IFRS in Europe provides a setting to study the effects of increasing accounting requirements on liquidity and cost of capital. Leuz and

Verecchia (2000) study German firms that have switched from German GAAP to IFRS or US GAAP. They show that liquidity, measured with the bid-ask spread, increases after a switch. Daske et al. (2008) show that market liquidity increases around voluntary and mandatory adoption of IFRS, respectively.

Daske et al. (2013) distinguish between serious and unserious (i.e., label) IFRS adopters. Capital market effects should be stronger for firms with the intent to increase their commitment to transparency than for firms that adopt IFRS without the intent to provide more or better accounting information. Splitting the sample into serious and unserious adopters, Daske et al. (2013) find that liquidity increases only for serious adopters. In addition, the findings of Christensen et al. (2013) indicate that the capital market benefits around IFRS adoption are attributable to concurrent changes in reporting enforcement rather than to the change in accounting standard.

The prior literature's focus on settings where disclosure levels increase is mainly driven by data availability, as disclosure requirements for firms have been tightened in the last years. Only few papers investigate the implications of changes in disclosure when these levels *decrease*. One example is the study of Leuz et al. (2008). They investigate the causes and consequences of firms that chose to deregister and to cease SEC reporting (i.e., "going dark"). The findings suggest that such firms experience large negative abnormal returns.

The setting of Leuz et al. (2008) differs from our setting in that it covers firms that completely cease to provide public accounting disclosure. Our study focuses on a less extreme scenario that has not yet been investigated—the case where a company turns away from an accounting standard to another less detailed accounting standard. For firms quoted on U.S. and European stock exchanges, such a turn away is generally not possible without serious disadvantages. In Switzerland, however, firms are permitted to switch their reporting standard

from IFRS to Swiss GAAP. We explore this unique setting to get further insight on the economics of disclosure, and more specifically, the capital market consequences of IFRS.

2.4 Hypothesis Development

Extant literature on the implication of mandatory IFRS suggests that higher levels of disclosure lead to a decrease in information asymmetry (Leuz and Verrecchia 2000; Daske et al. 2008; Li 2010). Moreover, Leuz et al. (2008) show that firms ceasing to provide accounting disclosure exhibit negative abnormal returns. Therefore, a turn away from IFRS to a less detailed standard should, ceteris paribus, increase information asymmetry and decrease liquidity.

However, the change from IFRS to Swiss GAAP is a less radical step than a complete cessation of reporting. An important difference between Swiss GAAP and IFRS is that Swiss GAAP has fewer specific accounting rules. Although less extensive, Swiss GAAP standards are also based on the principle of "true and fair view". Therefore, the core principles of recognition and measurement are similar across IFRS and Swiss GAAP.

Some firms voluntary provide more information than required by the accounting standard. These voluntary disclosures might be unaffected by a turn away. In addition, after switching, firms might continue to disclose information required under IFRS on a voluntary basis. In this case, firms that turn away from IFRS aim to be exempt from future changes in IFRS rules. In both of these cases, we expect little impact of a turn away on the change in disclosed accounting information.

Firms turning away might also have been so-called "label adopters" (Daske et al. (2013). That is, firms applying IFRS without serious intentions to provide more and better accounting information. As those firms benefit less from higher liquidity and lower cost of capital, a reverse effect after a switch from IFRS back to Swiss GAAP might not be observable.

However, the rather high degree of enforcement in Switzerland is likely to mitigate unserious application of IFRS.[5]

Regardless of the effects on the amount and quality of accounting information disclosed, a turn away can affect liquidity by reducing the *comparability* of the provided accounting information (Daske et al. 2008). However, the comparability effect of a switch from IFRS to Swiss GAAP is twofold: Switching from IFRS to Swiss GAAP reduces comparability with those firms continuing to report under IFRS but, at the same time, increases comparability with those firms that never changed their accounting to IFRS (i.e., Swiss GAAP stayers).

Overall, the effect of a switch from IFRS to Swiss GAAP on liquidity is not straightforward and largely depends on the firms' ex post reporting decisions, that is, whether the firms actually decrease the level of disclosed information. However, given the substantive amount of literature pointing towards a positive correlation between disclosure and liquidity, we expect that liquidity decreases after a switch.

H_1: A turn away from IFRS to Swiss GAAP decreases the firm's market liquidity.

The stock market reactions to the announcement of a turn away are twofold. On the one hand, decreasing liquidity leads to higher costs of capital (Leuz and Verecchia 2000). This effect reduces the value of the firm. Consistent with this explanation, Leuz et al (2008) find large negative abnormal returns for firms that announce to cease SEC reporting. On the other hand, reporting under IFRS implies high administrative costs—costs that can be saved by switching to a less extensive accounting standard like Swiss GAAP. Investors might reward these cost savings.

[5] The SIX regularly reviews whether reports are compliant with IFRS. Furthermore, the SIX has the power and ability to impose sanctions on issuers. The substantial number of communicated sanction decisions indicates that IFRS is rigorously enforced in Switzerland (see Section 5.6 for further analyses on enforcement activities in Switzerland).

Also, it is possible that a net effect on firm value is overshadowed by the announcement effect of the switch, that is, by the effect of the information the switch reveals to market participants. As accounting changes might indicate that the firm wants to obfuscate poor performance by switching the accounting standard, market reactions are likely to be negative (Leuz et al. 2008). Overall, we expect firms to exhibit negative stock returns at the announcement of a turn away from IFRS to Swiss GAAP. Our second hypothesis is thus as follows:

H_2: The announcement of a turn away from IFRS to Swiss GAAP leads to negative stock returns.

We do not develop hypotheses on the causes of a turn away. However, we make predictions on the signs of the explanatory variables in the next section.

3. Research Design

We tackle different questions in this paper for which we employ different research methods. We analyze stated reasons for the switch in firms' press releases. To infer on reasons not stated in the press release, we perform a probit regression.[6] To understand the consequences of a switch on the firms' reporting, we examine differences in the annual reports before (i.e., IFRS) and after (i.e., Swiss GAAP) a switch. We conduct univariate and multivariate difference-in-differences analyses to examine the effects on liquidity. Finally, we use event study methodology to investigate the effects on stock market returns following the announcement to change from IFRS to Swiss GAAP.

[6] Using logit instead of probit regressions does not yield different findings.

3.1. Causes of a Turn Away

Three time periods are important for the examinations that we conduct in this study. The first (post t_1) is the time period after the announcement date of the turn away. The second (post t_2) is the time period after the publication date of the first report under Swiss GAAP. Typically, a firm announces a change of the accounting standard for the current financial period. For example, if the announcement is in June 2009, the annual report 2009 is the first report under Swiss GAAP. The third (post t_3) is the time period of the 40 trading days beginning on 1 April 2013, which we use to investigate any long-term effects.[7]

[Figure 2 here]

To examine the causes of a switch to Swiss GAAP, we collect and analyze firms' press releases on the reasons of a switch. To infer on causes not stated by the firms, we conduct a probit regression. The depending variable (*SWITCH*) is a dummy variable that equals 1 in the year where the firm announces to switch from IFRS to Swiss GAAP, and 0 in the years prior to the announcement. Firm-years after a turn away are excluded. For firms that do not switch, the variable *SWITCH* equals 0 for all years.

We expect financial characteristics of a firm to have an influence on the decision to switch to Swiss GAAP. We use similar explanatory variables and predictions as Leuz et al. (2008). We include proxies for firm size, financing needs, financial structure, and performance. We use the natural logarithm of total assets (*SIZE*) to proxy for firm size. We predict a negative sign, as Swiss GAAP is primarily designed for small and medium-sized entities (FER 2012). High financing needs make a turn away from IFRS to Swiss GAAP less likely, as potential capital providers have an interest in accounting disclosure to assess the

[7] We acknowledge that for companies that switched in 2012, the term "long term" is not equally valid as for the companies that already switched in 2008.

financial health of the debtor and protect their investments. We use the average asset growth of the preceding two years (*GROWTH*) to proxy for financing needs.[8] For financial structure, we include the debt-to-asset ratio (*LEV*). To control for performance, we include the return on assets (*ROA*) and the stock return of the previous year (*RET*). We do not make predictions on the influence of leverage and performance.

An important difference between Swiss GAAP and IFRS is the accounting treatment of purchased goodwill. Under IFRS, goodwill must be capitalized and annually tested for impairment. Goodwill impairments are recognized in the income statement. Under Swiss GAAP, acquired goodwill can either be capitalized and depreciated over its useful life or directly set off against equity.[9] Setting off goodwill against equity eliminates the risk of future goodwill impairments affecting net income. Higher levels of goodwill increase the incentive to eliminate this risk. We therefore expect that firms with a high proportion of goodwill to total assets (*GW*) are more likely to turn away from IFRS to Swiss GAAP.

IFRS became mandatory in 2005 for firms listed in the main segment of the SIX. However, some firms had already adopted IFRS prior to 2005. We expect that these early adopters are less likely to switch back. We include the binary variable *EARLY* that equals 1 if the firm is an early adopter of *EARLY*, and 0 otherwise.

Insiders have private information. Outsiders in turn have to rely on available public information and on information the firm provides to the public. High quality reports are therefore more important to outsiders than to insiders. We expect that the ratio of free floating shares to total outstanding shares (*FFLOAT*) has a negative influence on the probability to turn away. Our main probit regression model is:

---

[8] When using an alternative proxy for growth, the market-to-book ratio, the results and inferences on the causes of a switch back to Swiss GAAP remain the same.

[9] If a firm decides to set off goodwill against equity, it must disclose the amount of goodwill, goodwill amortizations, and goodwill impairments in the notes of the financial statements.

$$SWITCH_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 GROWTH_{it} + \beta_3 LEV_{it} + \beta_4 ROA_{it} + \beta_5 RET_{it} + \beta_6 GW_{it} + \beta_7 EARLY_{it} + \beta_8 FFLOAT_{it} + \varepsilon_{it} \quad (1)$$

3.2. Liquidity

Both events, the announcement of a turn away and the turn away itself may have an effect on the liquidity of the firm. Leuz and Verrecchia (2000) show that a *commitment* to greater disclosure increases stock market liquidity. To the extent that a retreat from that commitment has the opposite effect, we should observe a decrease in liquidity after the announcement of the turn away, that is, after t_1 (see Figure 2). The actual reduction of transparency (if any) occurs when the first report under Swiss GAAP is published (t_2). At t_2, investors have less information than in previous years under IFRS. According to our hypothesis, we expect liquidity to decrease after t_1 or t_2. Finally, we investigate long term effects of the switch by using bid-ask-spreads of the 40 trading days beginning on 1 April 2013.

We construct four control samples. An index, a size- and industry-matched, a PSM control sample, and a control sample consisting of firms that never switched to IFRS (i.e., the Swiss GAAP stayers). For the index control sample, we match each firm of the turn away sample to an index consisting of the 111 firms that continue to report under IFRS (see Table 1). That is, the liquidity around t_1, t_2, and t_3 are matched for each firm individually to the index. In the size- and industry-matched sample, we match each firm of the turn away sample to a firm of the index that is in the same industry and is closest to the amount of total assets of the switching firm. For the PSM control sample, we match each firm of the turn away sample to its closest peer in the index according to the propensity scores from the probit regression in equation (1). For the Swiss GAAP stayers control sample, we match each switching firm to an index consisting of the 29 firms that have never switched to IFRS.

We measure liquidity with the proportional bid-ask spread, the percentage of zero returns, and the residual spread. We use the bid-ask spread to get results comparable to prior results in empirical research on liquidity and information asymmetry (e.g., Leuz and Verrecchia 2000; Daske et al. 2008). To obtain a more direct proxy for information asymmetry, we compute the residual spread by regressing the natural logarithm of the bid-ask spread on the natural logarithms of the stock volatility, share turnover, and market value. We calculate the bid-ask spread and the percentage of zero returns over a period of 40 trading days. We calculate these two measures for the period before the announcement of a switch from IFRS to Swiss GAAP (pre t_1), for the period after the announcement (post t_1), for the period after the publication of the first report under Swiss GAAP (post t_2), and for the period starting on April 1st 2013 (post t_3).

In addition to the univariate analyses, we perform multivariate difference-in-differences analyses. We use a similar research design as Daske et al. 2008. We regress the natural logarithms of the proportional bid-ask spread and the percentage of zero returns on the dummy variable *Switcher*, a dummy variable *PostAnnounce* equal to 1 for all quarters of a switching firm after its announcement to switch, a dummy variable *PostPubl* equal to 1 for all quarters of a switching firm after the publication of the first report under Swiss GAAP, quarterly fixed effects as well as the natural logarithms of share volatility, share turnover, and market value. If liquidity decreases for the switching firms, the coefficients for *PostAnnounce* and *PostPubl* are positive.

3.3. Stock Returns

To examine the effects of a turn away on stock returns, we conduct an event study around the announcement of the switch from IFRS to Swiss GAAP.

We measure the stock returns for three event windows around the announcement day. We take a one-day and a two-day window after the announcement (Leuz et al. 2008). To capture stock market reactions to possible information leaks before the official announcement of the switch, we take a third window that comprises the five days before and the five days after the announcement (including the announcement date). We adjust the raw returns of the turn away sample by the returns of the index, the size- and industry-matched, the PSM, and the Swiss GAAP stayers control sample.

4. Sample Description

Table 1 presents the sample selection. The initial sample consists of 278 firms listed at the SIX Swiss Exchange (SIX). We exclude 40 firms whose primary stock exchange is not the SIX. For example, for a company with a main listing in Germany, a switch to Swiss GAAP is not an option. We further exclude 57 firms that do not apply IFRS, 17 investment entities that cannot switch to the domestic standard and thus cannot turn away from IFRS, and 19 firms due to missing accounting or market data.[10] These procedures yield a sample of 145 firms.

Of these 145 firms, 34 (23%) switch from IFRS to Swiss GAAP. This is our full sample. 8 firms announced to turn away in 2013 and will publish financial reports in 2014. For the other 26 firms, financial reports are available. These 26 firms represent our *constant* sample that we can use to perform all our tests.

[Table 1 here]

The first turn away from IFRS to Swiss GAAP was announced end of June 2008. We therefore consider the years 2008 to 2013 in our probit regression, yielding a sample of 870

[10] The 57 firms that do not apply IFRS include the 29 Swiss GAAP stayers, 14 firms that apply US GAAP, and 14 firms applying Swiss regulatory banking rules (FINMA).

firm-year observations. We exclude all years after the announcement of a turn away to only include years where a turn away from IFRS to Swiss GAAP is an option. For example, if a firm announces in 2009 to turn to Swiss GAAP, the years 2010 to 2013 are excluded for that firm. This reduces the number of firm-years by 80 observations. 23 firm-years are excluded due to missing accounting or stock market data. Our final sample for the probit regression contains 767 firm-year observations including 124 turn away firm-years for the full sample (i.e, 34 switching firms), and 618 firm-year observations including 81 turn away firm-years for the constant sample (i.e., 26 switching firms).

[Table 2 here]

Table 2 shows the descriptive statistics of the variables for the observations included in the probit regression. Turn away firms are significantly smaller (untabulated *t*-statistic = 8.69), have lower leverage (*t*-statistic = 2.19), have lower return on assets (*t*-statistic =1.88), and are less likely to have voluntarily applied IFRS before 2005 (*t*-statistic = 1.99) as compared to firms that continue applying IFRS. There are no significant univariate differences concerning asset growth, stock returns, goodwill, and the proportion of free floating shares.

Untabulated results suggest that the switchers have similar firm characteristic as the Swiss GAAP stayers. Both groups exhibit no significant differences in size, leverage, asset growth, profitability, and stock returns. The only statistically significant (*t*-statistic = 2.68) difference is that the Swiss GAAP stayers have less goodwill than the switchers. This result could be indication that the Swiss GAAP stayers made use of the option to set goodwill off against their equity. By definition, Swiss GAAP stayers have not adopted IFRS before 2005. Taken

together, the descriptive evidence supports the use of the Swiss GAAP stayers as a control group.

5. Empirical Results

5.1. Reasons for a Turn Away in Firms' Press Releases

Table 3 presents the reasons that firms state in their press releases for a turn away from IFRS to Swiss GAAP. 27 firms of the sample provide reasons for the switch to Swiss GAAP, 6 announce a switch without providing any reasons, and one firm did not issue a press release concerning the switch. Of these 27 firms, 22 firms (81%) mention high or increasing complexity of IFRS accounting rules; 18 firms (67%) mention high or increasing administrative costs associated with reporting under IFRS. For 15 firms (56%), a switch to Swiss GAAP is legitimate, because Swiss GAAP is based on the principle of "true and fair view". For at least 13 (48%) transparency or disclosure quality will not be adversely affected by the switch.

[Table 3 here]

6 firms (22%) expect increasing complexity and administrative costs because of the admission of IFRS for U. S. firms in 2014. They expect that IFRS are going to converge even more to US GAAP and become more "rule-based" to meet U. S. reporting requirements. 2 firms state that detailed disclosure requirements lead to the disclosure of business secrets. Swiss GAAP is perceived by 8 firms (30%) as a solid and accredited reporting alternative that is less complex and focuses on the basics. Its accounting rules are perceived as comprehensible yet sufficient to capture the complexity of small- and medium-sized firms. Also, a change from IFRS to Swiss GAAP involves only small accounting changes. 7 firms

(26%) state that they are going to apply the same accounting methods under Swiss GAAP as previously under IFRS if these methods are permitted under Swiss GAAP.

One firm states that a switch to Swiss GAAP will not have adverse effects on the firm's ability to obtain capital. Another firm mentions specific accounting rules of IFRS as the reason for the turn to Swiss GAAP. This firm explains that rules of the newly issued IFRS 11 would require applying equity accounting for an associate that was previously consolidated on a proportional basis. This would lead to a financial report that is not consistent with a "true and fair view". Furthermore, the revised IAS 19 does not appropriately reflect the Swiss reality where pension funds are generally independent. Applying this standard would thus lead to volatile equity.

5.2. Probit Regressions on Determinants of a Turn Away

Table 4 reports the results of the probit regression for the full sample (767 observations) and for the constant sample (618 observations) across four different models. When conducting logit regressions instead of probit regressions, the results (not tabulated) are very similar and the inferences are identical. The regressions show that switching firms are significantly smaller, have a smaller growth in total assets, have higher return on assets, and a larger proportion of goodwill than firms that choose to continue reporting under IFRS.

Our results for firm size are consistent with the findings of Cuijpers and Buijink (2007) on the determinants of non-local GAAP adoptions. The results for size and asset growth are consistent with the results of Leuz et al. (2008) on "going dark" decisions. In contrast to Leuz et al. (2008) who find that going dark firms have significantly higher leverage, we do not find that leverage has a significant influence on the decision to turn away from IFRS to Swiss GAAP, although the coefficient estimates have a positive sign. Voluntary adoption of IFRS prior to 2005 and the ratio of free floating to total shares outstanding have also no significant

influence. The Pseudo R^2 is more than 20 percent, which is comparable to the results of Leuz et al. (2008).

[Table 4 here]

Our findings indicate that both economic and accounting considerations play a role in the decision to turn away from IFRS to Swiss GAAP. When first applying Swiss GAAP, goodwill can be set off against equity. This reduces potential goodwill impairments through net income under IFRS. The significantly positive coefficient for *GW* indicates that firms with high proportions of goodwill are more likely to switch the accounting standard, thereby reducing the risk of potential future goodwill impairments. The examination of the annual reports of turn away firms (see Section 5.3) further emphasizes this finding, that is, the annual reports reveal that *all* turn away firms make use of the option to set goodwill off against equity.

5.3. Consequences of a Turn Away on Accounting Disclosures

Accounting information required under Swiss GAAP is less extensive than under IFRS. To meet the information needs of its actual and potential investors, a company can decide to voluntarily publish more information than required by the standard. The effects of a switch in accounting standards on provided accounting information is thus an empirical question.

[Table 5 here]

Table 5 shows the impact of a turn away on accounting disclosures. The mean number of pages of the annual report decreased by 13 pages (14%), of which 11 pages are attributable to

the notes that decreased by 33 percent. About 2 pages are attributable to a reduced outline of the accounting principles in the notes. The total word count decreased by 19 percent. The mean changes are statistically significant at the 1 percent level. The number of presented positions in the balance sheet and in the cash flow statement does not significantly change.

These results show that the overall amount of accounting information in the annual report has decreased after the switch to Swiss GAAP. One of the main differences between IFRS and Swiss GAAP are the rules relating to segment reporting. Segment reporting is a delicate topic for many firms. The concern that business secrets are disclosed competes with the goal to present information useful to the firms' investors. For this reason, the firm's segment reporting might be an indication of its commitment to transparent financial reporting. We therefore collect segment information before and after the turn away.

Untabulated findings reveal that 3 out of the 26 switching firms (12%) cease to provide segment information, and 3 other firms reduce information to geographical segments only. The mean number of disclosed segments (i.e., 3 segments) is approximately constant. Overall, 19 firms (73%) reduce provided segment information after turning to Swiss GAAP: More than half of the switching firms cease to provide segment information on EBIT, EBITDA, depreciation and amortization, capital expenditures, total assets, or total liabilities. 10 firms disclose only net sales, which is the minimum segment information required under Swiss GAAP. Overall, both quantity and quality of the segment reporting decrease after a switch from IFRS to Swiss GAAP.

To get further evidence on the influence of a switch to Swiss GAAP on the amount of accounting information disclosed, we collected information on audit fees. Audit fees tend to rise with the audit length and complexity, which are dependent on the size, the business, the organization, and the regulatory environment of the auditee. As the only factor that changed for the sample is the applied accounting standard, we expect to observe decreasing accounting

fees after a turn to Swiss GAAP. Table 5 shows that audit fees significantly decrease on average by 15 per cent (*t*-statistic = -3.36) while the fees charged by the audit company for additional services increase by 44 percent (*t*-statistic = 1.84). This result suggests that while the implementation of Swiss GAAP leads to additional (probably nonrecurring) fees, the turn away from IFRS require less audit procedures. This finding is consistent with a decreasing amount of disclosed information after a switch to Swiss GAAP.

A change from IFRS to Swiss GAAP has not only effects on the amount of information disclosed but also on key numbers of the annual report.[11] Table 5 reports results on the consequences of a turn away on shareholders' equity and net income. The table shows that mean (median) equity has decreased by 32 (47) percent. Out of 26 firms, 19 report lower equity after a turn to Swiss GAAP. The difference is mainly attributable to the firms' decision to set off goodwill against equity, accounting for 83 percent of the decrease. Every switching firm in our sample chooses the option to set its goodwill off against equity after the switch from IFRS to Swiss GAAP. Finally, the increase in mean net income from 11.7 to 12.3 million Swiss Francs is about 5 percent. 16, 4, 6, firms report higher, lower, constant income, respectively, after the turn away from IFRS. These changes are mainly attributable to (i) decreasing amortization of intangible assets previously recognized and amortized under IFRS but not recognized under Swiss GAAP, and (ii) lower pension expenses under Swiss GAAP.

5.4. Consequences of a Turn Away on Liquidity

Table 6 reports results on the consequences of a turn away for three measures of liquidity, that is, the proportional bid-ask spread (Panel A), the percentage of zero returns (Panel B),

[11] Firms that turn away from IFRS to Swiss GAAP have to provide *restated* accounting figures. In addition, a switching firm has to disclose a reconciliation of the shareholders' equity and net income. We use this restated information and reconciliations to compare shareholders' equity and net income across the two accounting standards.

and the estimated residual of the bid-ask spread (Panel C).[12] According to Hypothesis 1, liquidity is expected to decrease after a turn away, increasing the three measures. However, the proportional bid-ask spread in Panel A and the estimated residuals of the bid-ask spread in Panel C show an opposite pattern. They rather decrease after the announcement of a turn away, after the publication of the first report under Swiss GAAP, and in the long run (i.e., as of April 2013). Only the percentage of zero returns in Panel B shows an increasing but statistically insignificant pattern.

We control for confounding events, time effects, and self-selection bias by comparing the change in liquidity of the turn away sample to the change of the four control samples: The index, the size- and industry-matched, the PSM, and the Swiss GAAP stayers. In Panel A, the index control sample shows a constant pattern: Bid-ask spreads do not significantly change after t_1, drop slightly after t_2, and increase to their initial value in the long term. The size- and industry matched, the PSM, and the Swiss GAAP stayers control samples show a similar pattern as the turn away sample, that is, a decrease in the bid-ask spreads after the announcement, a further decrease after the publication of the report, and no further changes in the long term. This could be due to a negative time trend in the group of firms within the same industry and similar size as the switching firms.

[Table 6 here]

The difference-in-differences test corrects for this time trend. The effect of a turn away is still negative. However, the *t*-statistics of the difference-in-differences tests do not document a statistically significant increase in liquidity. The difference is significant only in one specification in Panel A (i.e., the long term difference in bid-ask spreads is lower compared to

[12] We also perform the univariate difference-in-differences analysis with the estimated information asymmetry component as computed according to Stoll 1989. The inferences remain the same.

the index control group) and in some specifications in Panel C. Untabulated *median* tests show similar results regarding the magnitude of the effects, and the ranksum test statistics indicate a statistically significant decrease of the bid-ask spreads after switching to Swiss GAAP.

[Table 7 here]

In addition to the univariate difference-in-differences analysis, we perform a multivariate difference-in-differences analysis based on quarterly observations. The results in Table 7 are consistent with the findings from the univariate analysis. The coefficients of *PostAnnounce* and *PostPubl* are not statistically significant. Therefore, we do not observe increasing bid-ask spreads or zero returns after a switch from IFRS to Swiss GAAP. The regression results remain when estimated for the group of switchers together with each of the control groups. Furthermore, including the Inverse Mills Ratio (i.e., the probability to switch as estimated with Model 4 from Table 4) does not alter the results.[13]

Overall, as the tests rather indicate an increase in liquidity, we can—despite the small number of treatment observations—reasonably conclude that the turn away from IFRS to Swiss GAAP does not decrease the liquidity of the switching companies. There are three possible explanations for our observations. A first explanation of the absence of decreasing liquidity associated with a turn away would be a weak or missing link between levels of disclosure and liquidity. Given the results of prior literature, this explanation is rather unlikely.

Another interpretation would be that firms turning away from IFRS to Swiss GAAP were "label adopters" when adopting IFRS. Daske et al. (2013) show that these firms do not profit

[13] Including the Inverse Mills Ratio and interacting it with *PostAnnounce* and *PostPubl* does also not change our inferences.

from tighter bid-ask spreads or lower costs of capital that are associated with higher degrees of accounting disclosure. Because they would not have profited from the capital market benefits when adopting IFRS, they are unlikely to suffer from the negative effects when changing back to local GAAP. This explanation is not completely convincing because we show that a turn away from IFRS to Swiss GAAP actually leads to decreased accounting disclosures in the financial statements. So even if these firms were label adopters at the time they first applied IFRS, they apparently disclose more information under IFRS than under Swiss GAAP. In addition, the rather high level of enforcement in Switzerland is likely to mitigate unserious application of IFRS. Therefore, label adopters cannot fully explain why the decrease in disclosure level after the turn away has no effects on liquidity.[14]

We interpret the results as an indication that the extensive accounting rules and disclosure requirements of IFRS add little value for small- and medium-sized firms as compared to the requirements under Swiss GAAP. This explanation is consistent with firms' statements in press releases on the reasons of a turn away. Therefore, our results indicate that, for small- and medium-sized firms, a less extensive standard based on the principle of "true and fair view" is sufficient to meet the demand for disclosure of the market participants.

5.5. Consequences of a Turn Away on Stock Returns

Panel A of Table 8 reports results on the effect of an announcement to turn away from IFRS to Swiss GAAP on stock returns for three event windows around the announcement date. The first row shows unadjusted raw returns. Raw returns exhibit a slight negative, statistically insignificant reaction about 0.5 percent to the announcement. About half of the switching firms exhibit a negative reaction: 12, 15, and 18 out of 34 firms have negative stock returns after the announcement. Adjusting for the index (second row), the size- and industry-

[14] In section 5.6, we conduct further tests to exclude the "label adopter" explanation.

matched control sample (third row), the PSM control sample (fourth row), and the Swiss GAAP stayers control sample (fifth row) reveals virtually identical inferences. The findings based on the constant sample of 26 firms (Panel B) do also not suggest significant negative announcement returns.

[Table 8 here]

We acknowledge that the small sample size introduces bias in favor of accepting the null hypothesis that the announcement of a turn away from IFRS to Swiss GAAP has no effect on returns. However, the magnitude of both the raw returns and the adjusted returns is not economically large as compared to the negative market reaction when firms "go dark", which is about ten times higher in magnitude (Leuz et al. 2008, p. 198).

5.6. Additional Analyses

5.6.1 Enforcement Activities

So far, we base our inferences on the assumption that the level of enforcement is similar across the two trading segments (i.e., main segment for IFRS and the domestic segment for Swiss GAAP). However, if the regulatory scrutiny is lower in the domestic segment than in the main segment, the liquidity of the switching firms could be affected. Therefore, our setting would not be capable of disentangling the accounting effect from the enforcement effect. Another concern is that the switching firms are more likely to be subject to enforcement actions prior to their switch, indicating unserious IFRS adoption. As prior literature shows that label adopters do not benefit from the liquidity effects of IFRS adoption (Daske et al. 2013), a turn away from IFRS to Swiss GAAP should have little effect on liquidity.

To address the potential effects of enforcement on our results, we screen all press releases of the SIX Swiss Exchange issued between January 2004 and December 2013 for releases concerning investigations, reprimands, punitive fines, and other sanctions. We count a total of 51 investigations, 41 reprimands, 37 punitive fines, and 3 other sanctions. Figure 3 shows that enforcement activities have increased since 2005. While there were no regulatory actions in 2004, enforcement activities increase in the years from 2005 to 2009 and remain on a moderate level from 2009 to 2013.

[Figure 3 here]

In the main segment and domestic segment, 46 out of 195 firms (23.5%) and 12 out of 48 firms (25%), respectively, were subject to regulatory actions between 2004 and 2013. The results indicate that enforcement in the main standard and the domestic standard are comparable. Second, we perform a chi-square test (untabulated) to examine whether switching firms in the main segment are more likely to be subject to regulatory actions than non-switchers. 9 out of 34 switching firms (26.5%) have been subject to regulatory action. 29 out of 111 non-switching firms (26.1%) have been subject to one of these regulatory actions. The chi-square test statistic of 1.00 does not suggest that the difference is significant.

Overall, the additional tests on enforcement activities confirm that neither the trading segments at the SIX Swiss exchange differ in their level of enforcement activities nor the switching firms are more prone to regulatory actions than non-switching firms. Therefore, our setting allows investigating the effect of a change in accounting standard while holding other institutional factors constant.

5.6.2 Time trend of bid-ask spread

In the difference-in-differences methodology, the *parallel trend assumption* is crucial. If the trend in liquidity before switching is different across the treatment group (i.e., switching firms) and the control groups, the parallel trend assumption is likely to be violated. If, for example, switching firms show a pattern of increasing liquidity (relative to the control group) before they switch, our finding that the switch has no effect on the switching firms' liquidity is likely to be driven by different trends in liquidity.

[Figure 4 here]

Figure 4 shows the time trend of the proportional bid-ask spread from 2004 to 2013 for the switching firms, Swiss GAAP stayers, firms that adopted IFRS in 2005 (2005 adopters), and firms that adopted IFRS before 2005 (early adopters). The bid-ask spreads substantially differ between the four groups. Early adopters have the lowest bid-ask spreads, whereas the Swiss GAAP stayers exhibit the highest spreads. However, the graph does not suggest a substantially different pattern in bid-ask spreads across the different groups before 2008. Therefore, our finding that the liquidity of the switching firms does not decrease after the switch is unlikely to be primarily driven by different trends in liquidity.

5.6.3 Liquidity consequences around IFRS adoption in 2005

A possible concern is that the switching firms never experienced positive liquidity effects when they adopted IFRS in 2005. In that case, finding no negative liquidity consequences when turning away from IFRS to Swiss GAAP is not surprising. Accordingly, our findings would rather point towards the "label adopter" explanation (Daske et al. 2013) than the interpretation that IFRS add little value for small- and medium-sized entities. Therefore, we

investigate the liquidity effects of switching firms surrounding IFRS adoption in 2005. We compare quarterly proportional bid-ask spreads across the years 2004 (before IFRS) and 2006 (after IFRS) for switching firms and the firms that continue applying IFRS.

Untabulated results reveal that the mean bid-ask spread for the switching firms decreases from 2.9% to 2.1% after IFRS adoption in 2005. The decrease of 0.8% is significant at the 1%-level (*t*-statistic = 3.62). The decrease in mean bid-ask spread of 1.1% (from 2.0% to 0.9%) for the firms that continue applying IFRS is also significant (*t*-statistic = 2.25). The difference-in-differences of 0.3% is insignificant (*t*-statistic = 0.29). As the switching firms experience positive liquidity effects that are comparable to the liquidity effects of other IFRS adopters around 2005, label adopting is unlikely to explain our main findings.

6. Conclusion

This paper examines the causes and consequences of a voluntary turn away from IFRS to local GAAP. To conduct our analyses, we use a unique setting in Switzerland where such a turn away is permitted. To get insights on the causes of a turn away, we analyze firms' press releases and conduct a probit analysis. We analyze the firms' annual reports before and after the turn away to examine the consequences on disclosed financial information. We conduct a difference-in-differences analysis with four control groups to investigate the consequences of a turn away on liquidity measured with the proportional bid-ask spread, zero returns, and residual spreads. Finally, we conduct an event analysis to investigate the stock market reaction to the announcement to switch the accounting standard.

We find that high administrative cost of IFRS reporting, increasing complexity of IFRS, and low perceived added value of IFRS compared to Swiss GAAP are reasons that firms state in press releases for a turn away. The results from the probit analysis show that large and growing firms are less likely to switch. Notably, we find that firms with high proportions of

goodwill relative to total assets are more likely to switch, consistent with firms avoiding the potential risk of future goodwill impairments. We find that firms substantially reduce the amount of information disclosed in the financial statements after a turn to Swiss GAAP: The page count of the notes to the financial statements, the information in the segment reporting, and the audit fees decrease.

We find no evidence that a switch from IFRS to Swiss GAAP decreases liquidity. This finding is not consistent with prior empirical results. We do also not find significant negative returns at the announcement date of a turn away from IFRS to Swiss GAAP. Overall, we interpret our findings as indication that the extensive IFRS accounting rules and disclosure requirements add little value to small- and medium-sized enterprises. This explanation is consistent with firms' statements in press releases about their reasons to turn away.

References

Balakrishnan, K., M. B. Billings, B. Kelly and A. Ljungqvist (2013). Shaping Liquidity: On the Causal Effects of Voluntary Disclosure, *Journal of Finance* (forthcoming).

Barth, M. E. and Israeli, D. (2013). Disentangling mandatory IFRS reporting and changes in enforcement, *Journal of Accounting and Economics*, 56, pp. 178–188.

Botosan, C. A. (1997). Disclosure level and the cost of equity Capital, *The Accounting Review*, 72(3), pp. 323–349.

Bushee, B. J. and C. Leuz (2005). Economic consequences of SEC disclosure regulation: evidence from the OTC bulletin board, *Journal of Accounting and Economics*, 39, pp. 233–264.

Christensen, H. B., L. Hail, C. Leuz (2013). Mandatory IFRS Reporting and Changes in Enforcement, *Journal of Accounting and Economics*, 56, pp. 147–177.

Cuijpers, R. and W. Buijink (2007). Voluntary Adoption of Non-local GAAP in the European Union: A Study of Determinants and Consequences. *European Accounting Review*, 14(3), pp. 487–524.

Daske, H. (2006). Economic Benefits of Adopting IFRS or US-GAAP – Have the Expected Cost of Equity Capital Really Decreased? *Journal of Business Finance and Accounting*, 33(3&4), pp. 329–373.

Daske, H., L. Hail, C. Leuz, and R. Verdi (2008). Mandatory IFRS reporting around the world: early evidence on the economic consequences, *Journal of Accounting Research*, 46(5), pp. 1085–1142.

Daske, H., L. Hail, C. Leuz, and R. Verdi (2013). Adopting a Label: Heterogeneity in the Economic Consequences around IAS/IFRS Adoptions, *Journal of Accounting Research*, 50(3), pp. 495–547.

Diamond, D., and R. Verrecchia R. (1991). Disclosure, Liquidity and the Cost of Capital. *Journal of Finance* 46: 1325–59.

Easley, D., and M. O'Hara (2004). Information and the Cost of Capital. *Journal of Finance* 59 :1553–83.

Foundation for accounting and reporting recommendations (FER) (2009) *Accounting and Reporting Recommendations 2009/2010*, Zurich.

Foundation for accounting and reporting recommendations (FER) (2012) *Accounting and Reporting Recommendations 2012/13*, Zurich.

Lang, M., K. V. Lins, M. Laffett (2012) Transparency, Liquidity, and Valuation: International Evidence on When Transparency Matters Most, *Journal of Accounting Research*, 50(3), pp. 729–773.

Leuz, C., A. Triantis, and T. Y. Wang (2008) Why do firms go dark? Causes and economic consequences of voluntary SEC deregistrations, *Journal of Accounting and Economics*, 45, pp. 181–208.

Leuz, C. and R. E. Verrecchia (2000) The economic consequences of increased disclosure, *Journal of Accounting Research*, 38 (supplement), pp. 91–124.

Li, S. (2010) Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? *The Accounting Review*, 85(2), pp. 607–636.

Rogers, W. (1993) Regression Standard Errors in Clustered Samples, *Stata Technical Bulletin* 13(1), pp. 19–23.

SIX Swiss exchange (SIX) (2012) *Directive on Financial Reporting*, http://www.six-exchange-regulation.com/admission_manual/06_13-DFR_en.pdf

SIX Swiss exchange (SIX) (2013) *Listing Rules,* http://www.six-exchange-regulation.com/admission_manual/03_01-LR_en.pdf

Stoll, H. R (1989) Inferring the Components of the Bid-Ask Spread: Theory and Empirical Tests, *Journal of Finance*, 44(1), pp. 115–134.

Welker, M. (1995) Disclosure Policy, Information Asymmetry, and Liquidity in Equity Markets, *Contemporary Accounting Research*, 11(2), pp. 801–827.

Figure 1. Application of accounting standards at the SIX (2000 to 2012)

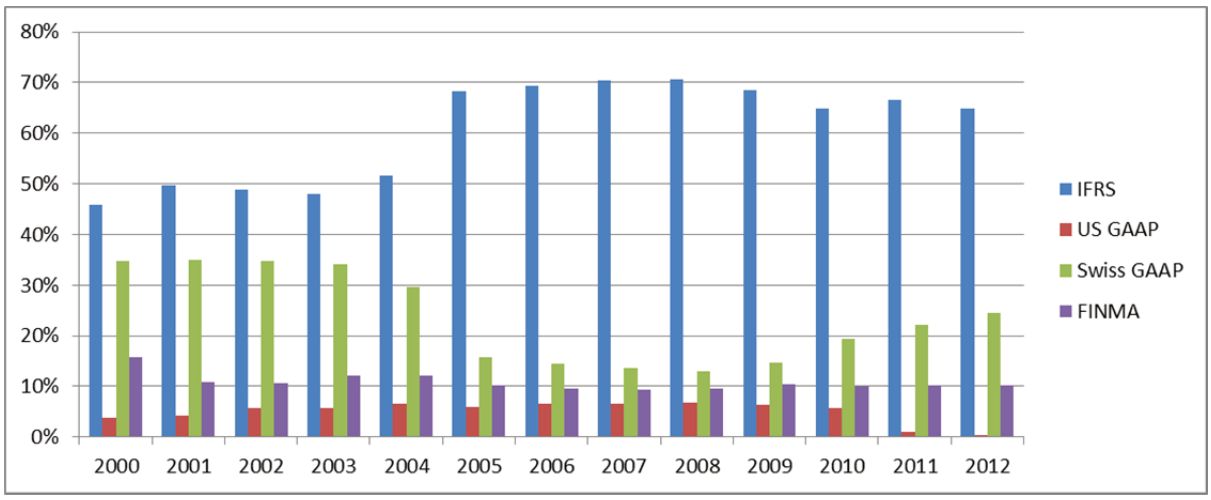

Figure 2. Time periods surrounding the switch from IFRS to Swiss GAAP

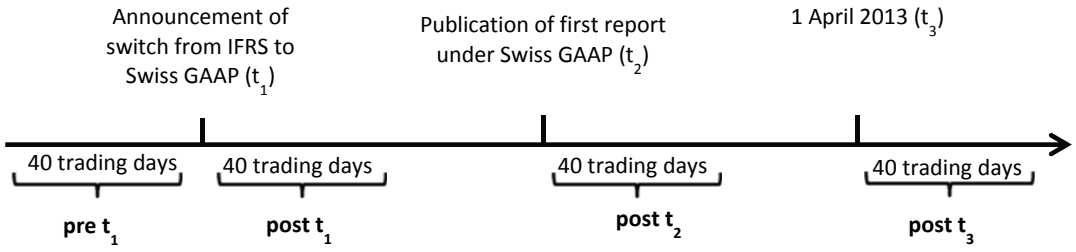

Figure 3. Enforcement activities in Switzerland from 2004 to 2013

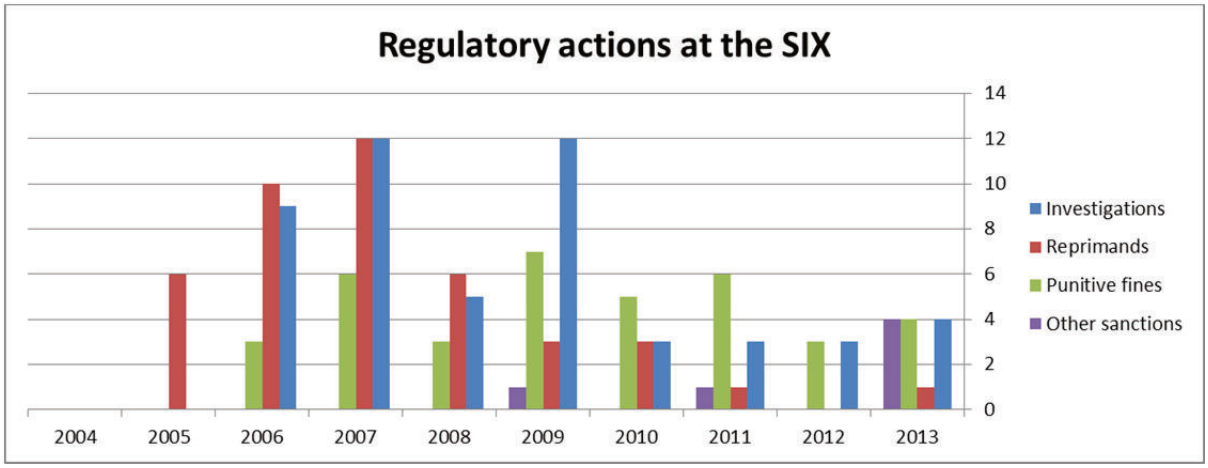

Figure 4. Time trend of proportional bid-ask spreads from 2004 to 2013

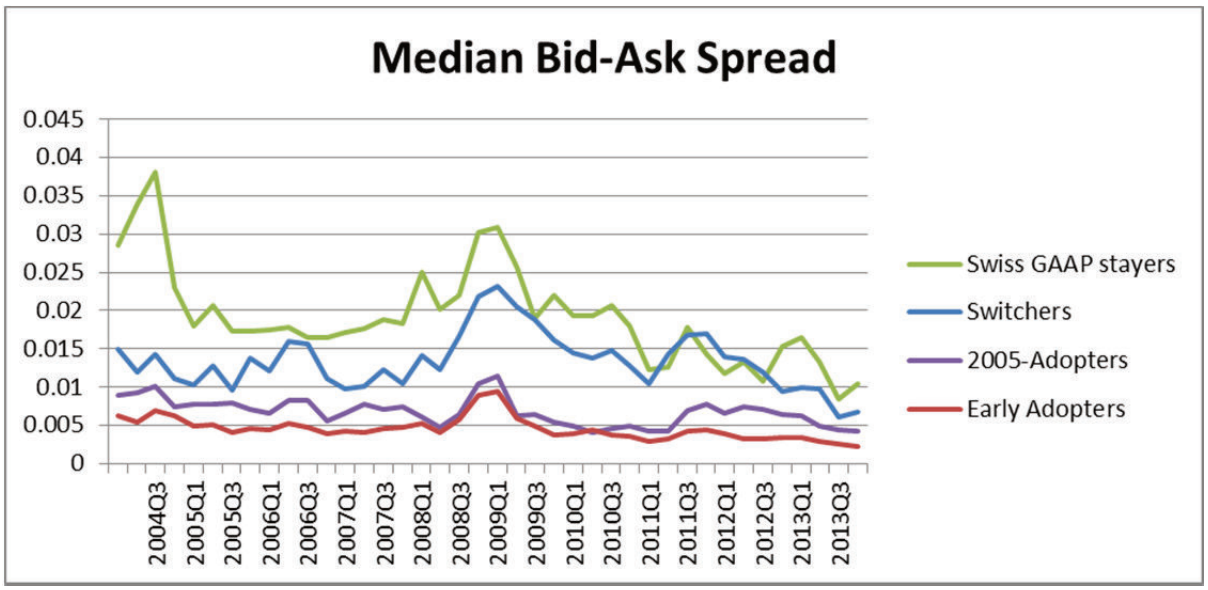

Table 1. Sample selection

	# of firms	Percent	Percent
Firms listed at the SIX Swiss Exchange	278	100%	
./. SIX not main stock exchange	(40)		
./. accounting standard not IFRS	(57)		
./. investment entities	(17)		
./. missing data	(19)		
= sample for the probit regression	**145**	52%	**100%**
./. firms not turning away	(111)		
= firms turning away (full sample)	**34**	12%	**23%**
./. firms with financial reports yet not available	(8)		
= sample for difference-in-differences analysis (constant sample)	**26**	9%	**18%**

This table outlines the sample selection process. The sample firms are initially identified from Thomson Reuters. We exclude: 40 firms with a main stock exchange different from the SIX Swiss Exchange, 57 firms not applying IFRS, 17 investment entities, and 19 firms due to missing accounting or market data. This yields a sample of 145 firms.
Of these 145 firms 34 did and 111 did not turn to Swiss GAAP. For 8 firms that turned to Swiss GAAP financial reports are not yet available. For the sample of 26 firms we can perform all tests. This is our constant sample. For the sample of 34 firms not all tests can be performed due to financial reports yet to be published. This is our full sample.

Table 2. Descriptive statistics

Panel A: Descriptive statistics for the turn away sample (full sample)

Variable	N	Mean	p1	p25	Median	p75	p99	Std. dev.
SIZE	124	19.41	14.89	18.33	19.55	20.27	23.01	1.68
GROWTH	124	0.03	-0.73	-0.08	0.00	0.06	0.79	0.55
LEV	124	0.50	0.16	0.33	0.52	0.61	1.28	0.24
ROA	124	0.01	-0.87	-0.02	0.04	0.08	0.23	0.32
RET	124	-0.02	-0.75	-0.23	-0.02	0.15	1.20	0.39
GW	124	0.09	0.00	0.00	0.03	0.12	0.50	0.15
EARLY	124	0.57	0.00	0.00	1.00	1.00	1.00	0.50
FFLOAT	124	0.66	0.16	0.47	0.63	0.94	1.00	0.26

Panel B: Descriptive statistics for firms that continued reporting under IFRS

Variable	N	Mean	p1	p25	Median	p75	p99	Std. dev.
SIZE	643	21.13	16.72	19.70	21.05	22.15	26.81	2.08
GROWTH	643	0.04	-0.46	-0.04	0.03	0.11	0.69	0.20
LEV	643	0.55	0.12	0.39	0.56	0.68	0.97	0.22
ROA	643	0.04	-0.46	0.01	0.04	0.09	0.35	0.13
RET	643	0.01	-0.78	-0.28	-0.02	0.23	1.25	0.43
GW	643	0.08	0.00	0.00	0.04	0.13	0.38	0.10
EARLY	643	0.67	0.00	0.00	1.00	1.00	1.00	0.47
FFLOAT	643	0.65	0.10	0.45	0.67	0.88	1.00	0.26

This table reports descriptive statistics of the regression variables for firms that voluntary switch from IFRS to Swiss GAAP (panel A) and firms in the SPI that continue reporting according to IFRS (panel B). *SIZE* is the natural logarithm of the total assets. *GROWTH* is the average growth of the total assets for the preceding to years. *LEV* is total assets minus equity over total assets. *ROA* is the ratio of net income and total assets. *RET* is the stock market return of the firm's common equity. *GW* is the goodwill over total assets. *EARLY* is an indicator variable that equals 1 if the firm has adopted IFRS prior to 2005. *FFLOAT* is the ratio of free floating shares and outstanding shares. All variables are measured at the beginning of the year.

Table 3. Reasons for a turn away from IFRS to Swiss GAAP stated in press releases

Stated reasons in press releases	#	%
Main reasons		
High or increasing complexity of IFRS	22	81%
High or increasing administrative costs associated with reporting under IFRS	18	67%
Swiss GAAP is based on the principle of "true and fair view"	15	56%
Transparency or disclosure quality in IFRS reports is comparable to reports according to Swiss GAAP	13	48%
Other reasons		
Swiss GAAP is a solid and accredited accounting standard	8	30%
The same methods used under IFRS are going to be used under Swiss GAAP if permitted	7	26%
Higher complexity and costs expected because of admission of IFRS for U.S. companies	6	22%
Rules of Swiss GAAP are sufficient or better to capture the complexity of the firm's business	4	15%
IFRS has too many disclosure requirements	4	15%
Swiss GAAP focuses on the basics	3	11%
IFRS has converged too much to US GAAP in recent years	2	7%
Detailed disclosure requirements of IFRS lead to disclosures of business secrets	2	7%
Costs of Swiss GAAP reporting are acceptable for medium-sized companies	2	7%
A switch from IFRS to Swiss GAAP implies only small accounting changes	2	7%
Swiss GAAP is a comprehensible body of accounting rules	1	4%
A switch from IFRS to Swiss GAAP won't have adverse effects on the firm's ability to obtain capital	1	4%
IFRS and Swiss GAAP have the same conceptual framework	1	4%
Swiss GAAP is adequate for international Swiss companies	1	4%
Application of IFRS would lead to biased financial reporting	1	4%
Costs-benefit ratio is reasonable under Swiss GAAP	1	4%

This table reports the reasons for a turn away from IFRS to Swiss GAAP that firms state in press releases. The second column reports the number of firms mentioning the reason. The sample consists of 34 firms that have announced to turn away between 2008 and 2013. Of these 34 firms 7 have either no press release related to the turn away or don't mention any reasons for the turn away in their press release. For the percentage numbers, only the 27 firms that state reasons for the switch are considered.

Table 4. Probit regression analysis on the causes of a turn away from IFRS to Swiss GAAP

Dependent variable		***SWITCH***							
Variables	Predicted sign	Model (1)		Model (2)		Model (3)		Model (4)	
		Full sample	Constant sample	Full sample	Constant sample	Full sample	Constant sample	Full sample	Constant sample
Intercept	?	3.034 ***	4.043 ***	3.240 ***	4.672 ***	3.225 ***	4.670 ***	3.104 ***	4.609 ***
		(2.68)	(3.23)	(2.71)	(3.46)	(2.71)	(3.47)	(2.62)	(3.39)
SIZE	-	-0.289 ***	-0.347 ***	-0.305 ***	-0.390 ***	-0.303 ***	-0.389 ***	-0.315 ***	-0.392 ***
		(-5.51)	(-6.13)	(-5.35)	(-6.17)	(-5.27)	(-6.05)	(-5.94)	(-6.28)
GROWTH	-	-1.696 ***	-1.611 **	-1.564 ***	-1.370 **	-1.577 ***	-1.380 **	-1.486 ***	-1.328 **
		(-3.23)	(-2.59)	(-3.10)	(-2.34)	(-3.11)	(-2.34)	(-2.99)	(-2.30)
LEV	+	0.421	0.557	0.481	0.687	0.479	0.685	0.444	0.662
		(1.00)	(1.16)	(1.13)	(1.39)	(1.13)	(1.39)	(1.02)	(1.33)
ROA	?	1.817 ***	1.668 ***	1.741 ***	1.555 ***	1.756 ***	1.570 ***	1.742 ***	1.562 ***
		(3.52)	(3.08)	(3.40)	(2.82)	(3.42)	(2.83)	(3.34)	(2.78)
RET	?	-0.294	-0.253	-0.256	-0.173	-0.254	-0.168	-0.244	-0.168
		(-1.36)	(-1.06)	(-1.22)	(-0.75)	(-1.22)	(-0.73)	(-1.18)	(-0.72)
GW	+			1.076 *	1.835 **	1.078 *	1.842 **	1.032	1.831 **
				(1.67)	(2.51)	(1.67)	(2.54)	(1.51)	(2.46)
EARLY	-					-0.041	-0.049	-0.023	-0.445
						(-0.22)	(-0.22)	(-0.12)	(0.20)
FFLOAT	-							0.470	0.193
								(1.22)	(0.47)
Year fixed effects		Included	Included	Included	Included	Included	Included	Included	Included
Pseudo R^2		0.2104	0.2648	0.2187	0.2863	0.2188	0.2865	0.2245	0.2874
F-statistic		67.22 ***	62.43 ***	70.09 ***	67.88 ***	71.97 ***	73.77 ***	82.02 ***	81.54 ***
N		767	618	767	618	767	618	767	618

The table reports coefficient estimates and, in parentheses, *t*-statistics based on heteroskedasticity-robust standard errors clustered by firm (Rogers, 1993). The dependent variable, *SWITCH*, is a dummy variable that equals 1 in the year where the firm announces to switch from IFRS to Swiss GAAP FER and 0 otherwise. Firm-years after a switch are not included. See Table 2 for the definition of the explanatory variables. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 5. Reporting changes after a turn away

	N	IFRS					Swiss GAAP					Difference of the means	
		Mean	*SD*	*Q1*	*Median*	*Q3*	*Mean*	*SD*	*Q1*	*Median*	*Q3*		
Extent of the annual report													
Number of pages in the annual report	26	94.12	33.87	74	85	118	80.58	30.18	60	79	102	-13.54 *** (6.76)	-14%
Number of pages in the notes	26	34.23	12.02	25	32	45	22.81	7.23	18	22	29	-11.42 *** (7.77)	-33%
Number of pages on principles of accounting	26	8.88	2.30	7	9	10	6.96	2.24	5	6	9	-1.92 *** (3.82)	-22%
Number of words in the annual report	26	26,832	9,414	19,947	24,871	30,882	21,846	7,582	16,737	20,786	23,917	-4,985 *** (6.54)	-19%
Number of positions in the balance sheet	26	32.50	4.61	31	34	36	32.62	4.44	28	34	35	+0.12 (0.20)	+0%
Number of positions in the income statement	26	20.62	4.09	18	20	22	18.85	4.67	16	18	20	-1.77 *** (2.88)	-9%
Number of positions in the cash flow statement	26	32.15	6.16	28	32	36	32.65	5.70	31	33	34	+0.50 (0.76)	+2%
Equity and net income (in 1000 CHF)													
Shareholder's equity	26	171,131	203,947	37,475	113,200	197,958	116,789	133,443	35,000	60,214	174,400	-54,341 *** (2.87)	-32%
Goodwill set off against equity	26	-	-	-	-	-	45,031	76,045	0	8,500	68,300	-	-
Goodwill set off against equity over equity	26	-	-	-	-	-	18%	22%	0%	7%	29%	-	-
Net income	26	11,728	39,615	-9,400	2,200	17,000	12,370	40,441	-9,300	3,700	17,200	642 (0.95)	+5%
Audit (in 1000 CHF)													
Audit fees	26	410	380	158	319	502	350	320	142	263	474	-60 *** (3.36)	-15%
Additional fees	26	102	109	2	73	176	147	191	12	72	183	+45 * (1.84)	+44%
Total fees	26	512	475	158	374	609	497	478	172	299	588	-15 (0.50)	-3%

This table presents descriptive statistics on the extent of disclosed financial information in the annual report, the changes in shareholder's equity and net income, and the changes in the audit fees before and after a turn away from IFRS to Swiss GAAP. The penultimate column shows the differents in the means and the related t-statistic in braquets below. Results are shown for the constant sample, i. e. for the 26 firms of 34 that have available annual reports end of 2013.
For the number of pages, words, and positions we compare the last annual report prepared according to IFRS to the first annual report prepared according to Swiss GAAP. For the audit fees we proceed similarly, we compare the fees of the year before the switch to the fees directly after. For equity, goodwill and net income we compare the disclosed numbers of the last annual report under IFRS to the restated numbers of the same year in the first annual report under Swiss GAAP. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 6. The effect of a turn away from IFRS to Swiss GAAP on liquidity

Panel A: Difference-in-differences analysis of proportional bid-ask spreads

Group	N	(a) Pre t1	(b) Post t1	(c) Post t2	(d) Long term	(b) - (a)	(c) - (a)	(d) - (a)
(1) Turn away sample	26	0.047	0.043	0.035	0.034	-0.005	-0.012	-0.013 **
						(-0.70)	(-1.37)	(-2.11)
(2) Index control	26	0.017	0.016	0.015	0.016	0.000	-0.002 *	0.000
						(-0.72)	(-2.00)	(-0.30)
(3) Size- and industry-matched control	26	0.016	0.015	0.013	0.013	-0.001	-0.003 **	-0.004
						(-0.99)	(-2.09)	(-1.36)
(4) PSM-matched control	26	0.013	0.014	0.011	0.010	0.000	-0.002 *	-0.004 **
						(-0.20)	(-2.02)	(-2.74)
(5) Swiss GAAP stayers	26	0.044	0.042	0.037	0.032	-0.001	-0.006 **	-0.012 ***
						(-0.66)	(-2.58)	(-5.21)
(1) - (2)		0.031 ***	0.026 **	0.021 **	0.018 **	**-0.004**	**-0.010**	**-0.013** **
		(3.24)	(2.64)	(2.12)	(2.31)	**(-0.66)**	**(-1.14)**	**(-2.10)**
(1) - (3)		0.031 ***	0.027 ***	0.022 **	0.022 ***	**-0.004**	**-0.009**	**-0.010**
		(3.35)	(2.82)	(2.37)	(2.82)	**(-0.58)**	**(-0.99)**	**(-1.40)**
(1) - (4)		0.034 ***	0.029 ***	0.024 **	0.024 ***	**-0.005**	**-0.010**	**-0.009**
		(3.57)	(2.85)	(2.40)	(3.13)	**(-0.72)**	**(-1.12)**	**(-1.48)**
(1) - (5)		0.004	0.000	-0.002	0.003	**-0.004**	**-0.006**	**-0.001**
		(0.38)	(0.02)	(0.20)	(0.34)	**(-0.52)**	**(-0.63)**	**(-0.18)**

Panel B: Difference-in-differences analysis of zero returns

Group	N	(a) Pre t1	(b) Post t1	(c) Post t2	(d) Long term	(b) - (a)	(c) - (a)	(d) - (a)
(1) Turn away sample	26	0.313	0.338	0.341	0.324	0.025	0.028	0.011
						(0.99)	(0.99)	(0.34)
(2) Index control	26	0.150	0.154	0.149	0.149	0.004	-0.001	-0.002
						(1.11)	(-0.28)	(-0.37)
(3) Size- and industry-matched control	26	0.149	0.144	0.138	0.160	-0.005	-0.012	0.011
						(-0.24)	(-0.50)	(0.54)
(4) PSM-matched control	26	0.122	0.147	0.139	0.131	0.025	0.017	0.009
						(1.44)	(1.13)	(0.52)
(5) Swiss GAAP stayers		0.153	0.157	0.152	0.152	0.004	-0.001	-0.002
						(1.12)	(-0.26)	(-0.37)
(1) - (2)		0.163 ***	0.184 ***	0.192 ***	0.175 ***	**0.021**	**0.029**	**0.012**
		(3.46)	(3.84)	(4.06)	(3.50)	**(0.87)**	**(1.05)**	**(0.40)**
(1) - (3)		0.164 ***	0.194 ***	0.204 ***	0.164 ***	**0.030**	**0.039**	**0.000**
		(3.24)	(3.60)	(3.99)	(2.94)	**(0.94)**	**(1.05)**	**(0.00)**
(1) - (4)		0.191 ***	0.191 ***	0.202 ***	0.193 ***	**0.000**	**0.011**	**0.002**
		(3.89)	(3.66)	(3.96)	(3.59)	**(0.00)**	**(0.31)**	**(0.05)**
(1) - (5)		0.160 ***	0.181 ***	0.189 ***	0.172 ***	**0.021**	**0.029**	**0.012**
		(3.39)	(3.78)	(3.99)	(3.44)	**(0.87)**	**(1.04)**	**(0.40)**

(continued on the next page)

Table 6 (continued)

Panel C: Difference-in-differences analysis of residual bid-ask spreads

Group	N	(a) Pre t1	(b) Post t1	(c) Post t2	(d) Long term	(b) - (a)	(c) - (a)	(d) - (a)
(1) Turn away sample	26	0.274	0.095	0.082	-0.054	-0.179	-0.192 *	-0.328 *
						(-1.60)	(-2.04)	(-2.01)
(2) Index control	26	0.010	0.007	0.010	0.009	-0.003	0.000	-0.001
						(-1.42)	(-0.08)	(-0.54)
(3) Size- and industry-matched control	26	0.025	0.077	0.033	-0.099	0.051	0.008	-0.124
						(-0.90)	(-0.11)	(-1.37)
(4) PSM-matched control	26	0.111	0.151	0.065	-0.038	0.040	-0.047	-0.149 *
						(-0.69)	(-0.68)	(-1.82)
(5) Swiss GAAP stayers	26	0.266	0.248	0.200	0.110	-0.018	-0.066	-0.156 ***
						(-0.41)	(-1.63)	(-4.76)
(1) - (2)		0.264 ***	0.088	0.072	-0.063	**-0.176**	**-0.192 ***	**-0.327 ***
		(2.91)	(0.69)	(0.58)	(0.31)	**(-1.58)**	**(-2.06)**	**(-2.00)**
(1) - (3)		0.249 **	0.018	0.049	0.045	**-0.230 ***	**-0.200 ***	**-0.203**
		(2.10)	(0.12)	(0.41)	(0.23)	**(-1.73)**	**(-2.06)**	**(-1.29)**
(1) - (4)		0.162	-0.056	0.017	-0.016	**-0.219 ***	**-0.145**	**-0.179**
		(1.46)	(0.37)	(0.13)	(0.08)	**(-1.82)**	**(-1.37)**	**(-1.09)**
(1) - (5)		0.008	-0.153	-0.117	-0.163	**-0.161**	**-0.125**	**-0.171**
		(0.08)	(1.07)	(0.94)	(0.82)	**(-1.21)**	**(-1.27)**	**(-1.02)**

This table reports mean values of the proportional bid-ask spread (Panel A), the percentage of zero returns (Panel B), and the estimated residual of the bid-ask spread (Panel C) for the pre and post announcement period, the post publication period, and the long term. Numbers in parentheses report the *t*-statistics. The periods consist each of the 40 trading days prior, after to the announcement of a turn away, after the publication of the first report according to Swiss GAAP, and after 1 April 2013, respectively. The turn away sample consists of all Swiss firms that announced a turn away from IFRS to local GAAP from 2008 to 2013 with released annual reports according to Swiss GAAP (constant sample).

For Panel C, the time periods (pre t1, post t1, post t2) consist of the quarters before and after the event dates t1 and t2, respectively. The residuals are calculated by regressing, on a quarterly basis, the natural logarithm of the bid-ask spread on return volatility, the natural logarithm of share turnover, the natural logarithm of market valuation, and dummy variables for quarters. Return Volatility is the standard deviation of logarithmic daily stock returns in a given quarter. Share turnover is the quarterly median of daily turnver (i.e., traded shares divided by total outstanding shares). Market value is the stock price times the number of shares outstanding measured at the end of the quarter.

For the index control each firm is matched to the firms of the Swiss Performance Index (SPI) that apllied IFRS from 2008 to 2013. The size- and industry-matched control sample consists of firms of the index control individually matched according to size and industry to the turn away firms. The propensity score matched sample consists of firms of the index control matched according to model 4 in table 4. For the Swiss GAAP stayers control, each switching firm is matched to an index consisting of the 29 firms that did not adopt IFRS. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 7. Regression analysis on the liquidity effects of a switch from IFRS to Swiss GAAP

Dependent variable		***ln (bid-ask spread)***		***percentage of zero returns***	
Variables	Predicted sign	Model 1	Model 2	Model 4	Model 5
Intercept	?	2.127 ***	2.122 ***	0.207 **	0.207 **
		(4.11)	(4.13)	(2.33)	(2.33)
Switcher	+	0.030	0.011	0.006	0.003
		(0.41)	(0.17)	(0.51)	(0.21)
PostAnnounce	+	**-0.012**		**-0.017**	
		(-0.08)		**(-1.26)**	
PostPubl	+		**0.048**		**-0.010**
			(0.38)		**(-0.61)**
ln(VolRet)	+	0.512 ***	0.510 ***	-0.036 ***	-0.036 ***
		(10.59)	(10.54)	(-3.33)	(-3.32)
ln(ShareTurnover)	-	-0.382 ***	-0.381 ***	-0.017 ***	-0.017 ***
		(-17.62)	(-17.34)	(-5.86)	(-5.81)
ln(MarketValue)	-	-0.381 ***	-0.381 ***	-0.019 ***	-0.019 ***
		(-16.17)	(-16.28)	(-6.54)	(-6.53)
Quarter fixed effects		Included	Included	Included	Included
R^2		0.8704	0.8704	0.3220	0.3209
F-statistic		122.81 ***	122.25 ***	13.74 ***	13.87 ***
N		3125	3125	3125	3125

The table reports coefficient estimates and, in parentheses, *t*-statistics based on heteroskedasticity-robust standard errors clustered by firm (Rogers, 1993). The dependent variable for models 1 and 2 is median of the natural logarithm of the bid-ask spread in a given quarter. For models 3 and 4, the dependent variable is the percentage days of zero returns in a given quarter. *Switcher* is a dummy variable equal to 1 if the firm switched from IFRS to Swiss GAAP between 2008 and 2013; and 0 otherwise. *PostAnnounce* and *PostPubl* are dummy variables equal to 1 for all quarters of a firm after its announcement to switch and after its publication of the first report under Swiss GAAP, respectively. The quarters of the announcement and the quarters of publication are dropped. For the definition of *VolRet*, *ShareTurnover,* and *MarketValue* see table 6. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Table 8. The effect of a turn away from IFRS to Swiss GAAP on stock returns

Panel A: Full sample

	N	Returns			# of negative
		[0, 1day]	[0, 2days]	[-5days, 5days]	
Raw	34	-0.005	-0.004	-0.005	(12, 15, 18)
		(-0.83)	(-0.49)	(-0.32)	
Index-adjusted	34	-0.006	-0.006	-0.007	(19, 20, 19)
		(-0.89)	(-0.93)	(-0.58)	
Size- and industry-adjusted	34	-0.005	-0.001	0.014	(16, 14, 17)
		(-0.65)	(-0.16)	(-0.73)	
PSM-adjusted	34	-0.001	-0.004	0.002	(17, 17, 18)
		(-0.19)	(-0.48)	(-0.13)	
SWGAAP-adjusted	34	-0.006	-0.004	-0.006	(15, 16, 21)
		(0.39)	(0.54)	(0.67)	

Panel B: Constant sample

	N	Returns			# of negative
		[0, 1day]	[0, 2days]	[-5days, 5days]	
Raw	26	-0.004	-0.005	-0.006	(7, 11, 13)
		(-0.53)	(-0.53)	(-0.53)	
Index-adjusted	26	-0.004	-0.008	-0.005	(13, 16, 13)
		(-0.57)	(-0.90)	(-0.38)	
Size- and industry-adjusted	26	-0.007	-0.004	0.016	(12, 11, 12)
		(-0.70)	(-0.46)	(-0.65)	
PSM-adjusted	26	0.000	-0.001	-0.006	(11, 13, 14)
		(-0.04)	(-0.10)	(-0.33)	
SWGAAP-adjusted	26	-0.004	-0.005	-0.006	(10, 12, 16)
		(-0.51)	(-0.48)	(-0.35)	

This table reports mean values of cumulative raw, index-adjusted, size- and industry-adjusted, propensity score adjusted, and swiss GAAP stayers adjusted stock returns for the turn away sample around the turn away announcement date. Results are reported for three different event windows: [0, 1day] is the announcement day; [0, 2days] is the period of the announcement and the following trading day; [-5days, 5days] are the five trading days before and after the announcement. The second column reports the sample size. The last column reports the number of negative returns in the sample for the different event windows, respectilvely. Numbers in brackets, when below returns, report the *t*-statistics. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed).

Beyond IFRS:
How firms benefit from industry-specific reporting guidance

Jérôme Halberkann
University of Zurich

Severin Widmer
University of Neuchâtel

November 2015

ABSTRACT This paper examines the capital market effects of standardized voluntary disclosure of industry-specific information in a strong information environment, which is the European real estate sector. We compute three proxies measuring the degree of firm compliance with the best practice recommendations (BPR) of the European Public Real Estate Association (EPRA). We find evidence indicating that higher compliance with EPRA BPR leads to higher liquidity, lower costs of capital, and higher analyst following. We further find that debt offering plans and the proportion of EPRA BPR adopters in the European real estate sector are factors that drive firms' degree of compliance with EPRA BPR. Moreover, we show that the benefits associated with EPRA BPR compliance increase with its dissemination in the sector and that these benefits do not spill over to non-compliant firms. Our results show that complementary disclosures can induce positive capital market outcomes in environments where IFRS are enforced and where liquidity and analyst following are ex-ante high and costs of capital is ex-ante low.

JEL classification: F30, G30, L85, M41
Key words: European Real Estate Association, Best practice recommendations, Disclosure quality, Information asymmetry

1. Introduction

The worldwide establishment of International Financial Reporting Standards (IFRS) is one of the most important developments in the history of accounting. Over 100 jurisdiction currently require the application of IFRS for listed entities. The objectives underlying IFRS are to enhance comparability among financial statements and improve corporate transparency with a uniform global set of standards directed towards the common information needs of a wide range of users (EC Regulation No. 1606/2002). This one-fits-all approach has limitations if investors demand industry-specific accounting information. IFRS figures may not cover all financial aspects important in an industry or may allow leaway that leads to unnecessary variation detrimental to transparency. To address these issues and bridge the gap between IFRS figures and investors' information needs, the European Public Real Estate Association (EPRA) develops and issues Best Practice Recommendations (BPR) for European real estate companies. The EPRA BPR are intended to increase comparability and decrease information asymmetry to attract investments in listed European real estate companies. EPRA-BPR-consistent information is based on IFRS figures and is complementary to IFRS financial statements rather than substitutional.

In this paper, we seeks to examine the determinants and economic effects of variation in disclosure quality of voluntary industry-specific information. More specifically, we investigate whether certain factors favor an EPRA BPR adoption and whether industry-specific disclosure recommendations can induce positive capital market effects such as higher liquidity, lower cost of capital, and higher analyst following that go beyond the effects of applying IFRS. Such positive capital market outcomes are not an obvious result of additional disclosure as additional disclosure can consist of boilerplate language, repetitions, or immaterial information that may reduce transparency and increase complexity (Lang and Stice-Lawrence, 2015). In addition, previous literature finds evidence that voluntary non-

standardized disclosure exhibits positive capital market effects only for firms in weak information environments (e.g. Lang and Lundholm, 1993; Botosan, 1997; Hail, 2002). We, however, focus on an arguably ex-ante rich information environment of listed European real estate companies that all apply IFRS. In addition, our study separates itself from previous research by focusing on voluntary *standardized* disclosure. EPRA does not only issue recommendations on *what* information should be provided (e.g. performance measures, rental data, and valuation data) but also on *how* performance measures have to be calculated and how supplemental information should be presented. The high level of detail in these recommendations are intended to increase consistency, and therefore transparency and comparability for investors among listed European real estate firms. Capital market effects may, however, not be born out as the application of EPRA BPR are voluntary and disclosure in accordance with EPRA BPR is neither enforced nor audited.

We choose to investigate best practice recommendations for European listed real estate companies because this setting provides several unique advantages. First, companies within the sector have similar operating activities and homogeneous financial statement structures where investment properties represent a major part of total assets. Second, listed European real estate companies have the opportunity to follow voluntary industry-specific BPR. Compared to country-specific BPR, industry-specific BPR minimize unrelated cross-industry variation. Third, the staggered adoption of EPRA BPR by many European listed real estate firms and the continuous improvement in compliance by already EPRA-BPR-applying firms provide a strong setting to isolate potential effects of EPRA BPR adoption from concurrent events. Finally, the sample of European listed real estate firms is economically material as our sample consists of more than 100 companies with an aggregate market capitalization of over €190 billion.

First, we investigate whether information in accordance with EPRA BPR is able to bridge the gap between IFRS figures and investors' information needs. More specifically, we investigate whether three EPRA performance measures (EPRA EPS, EPRA NAV, and EPRA NNNAV) are value relevant and whether they are better able to explain variation in stock prices compared to pure IFRS figures (EPS and book value of equity).

Second, we investigate whether voluntary application of EPRA BPR induces positive capital market effects such as higher liquidity (bid-ask spread), lower refinancing costs (cost of capital), and better information environment (analyst coverage). We use three measures to capture the degree of compliance with EPRA BPR: (1) We count the number of EPRA performance measures that a firm discloses in their annual statement (*EPRA Performance Measures*); (2) we create a score that captures to which extent firms comply with all the EPRA BPR including general recommendations, EPRA performance measures, and investment property reporting (*EPRA overall score*); and (3) we define an indicator variable equal to one if a firm's annual statement was awarded a medal in the Annual Report Survey conducted by Deloitte (*medal*).

Third, we investigate whether there are conditions under which EPRA BPR adoption is favorable. Firms that consider adopting EPRA BPR are faced with the question whether the benefits of an adoption would exceed the costs. If the costs exceed the benefits, firms do not voluntarily adopt EPRA BPR. Those net benefits may vary across time and settings.

Lastly, we are interested in whether the propagation of EPRA BPR application has economic effects on EPRA-BPR-adopting and non-adopting firms. Intuitively, the more firms complying with EPRA BPR the better the comparability and transparency of adopting firms. In addition, non-adopters may be affected by spillover effects. It may be that non-adopters likewise benefit from increased comparability and transparency through increased information of adopters regarding the state of the real estate sector. On the other hand, it may

also be that with an increased number of EPRA BPR adopters, investors become more reluctant to investments in non-adopters.

Based on a sample of 528 firm-year observations between the financial year 2009 and 2013, we investigate whether EPRA performance measures are relevant and reliable for investors, how variation affects capital market outcomes, and why firms vary in the degree of compliance with EPRA BPR. We find that net asset value figures (NAV) and periodical performance figures are value relevant based on both IFRS and EPRA BPR. Whereas EPRA figures dominate IFRS figures in regard of NAV measurement, IFRS EPS dominates EPRA EPS in regard of periodical performance measurement. Hence EPRA NAV and EPRA NNNAV seem to provide investors with information that more closely reflect market capitalization than the traditional IFRS equity number. In terms of capital market outcomes, firms can derive significant benefits from committing to EPRA BPR. Specifically, firms that comply more closely with EPRA BPR benefit from increased liquidity, lower refinancing costs, and attract greater analyst coverage. Further analysis indicates that the propagation of EPRA BPR reinforces its beneficial effects on adopters. On the other side, non-adopters seem not to be affected by either positive or negative spillover effects. Lastly, we find that upcoming debt offerings seems to provide strong incentive for real estate firms to adopt EPRA BPR and that firms with weaker stock price performance, firms with upcoming debt offerings, and firms in countries with better legal quality tend to more strongly comply with EPRA BPR. In addition, the degree of compliance has steadily increased since 2009.

Our study contributes to the literature at least in the following four aspects. First, principle-based IFRS define a one-fits-all approach, which does not differentiate between industry, environmental, or firm characteristics. However, investors' information demand is likely to depend on such characteristics. We extend the current disclosure literature, which has

largely focused on capital market effects of IFRS adoption in Europe, to industry-specific financial disclosure beyond IFRS.

Second, prior literature on voluntary disclosure beyond IFRS focused on non-standardized disclosure, which may introduce boilerplate language, repetitions, immaterial information, and inconsistencies to firms that altogether can reduce transparency and increase complexity. We, however, investigate a stronger setting where voluntary disclosures are standardized by the EPRA, which is legitimized from within through its committee and board structure, which composites of important industry representatives. Those voluntary disclosures are non-enforceable but the degree of compliance is assessed annually by an official body and is made publicly available for free.

Third, we focus on a sample of firms in an arguably ex-ante strong information environments with high liquidity, low cost of capital, and high analyst coverage. Previous literature has detected significantly positive capital market outcomes only for voluntary financial disclosures in week information environments.

Lastly, we shed light on the mechanics and factors through which EPRA BPR unfold its benefits to adopters without ever enforcing any of its recommendations.

2. Prior Literature

2.1 Voluntary Non-Standardized Disclosure

Before the mandatory IFRS adoption in the European Union in 2005, extensive academic research had been conducted to determine whether supplemental voluntary disclosure leads to positive capital market effects. Theoretical models suggest that additional disclosure may alleviate information asymmetries between investors, resulting in a smaller premium (discount) at which they are willing to sell (buy) shares to protect themselves from better informed investors acting on private information (Kim and Verrecchia, 1994). In addition,

higher level of disclosure may also reduce a firm's cost of capital by attracting increased demand from large investors due to increased liquidity (e.g. Diamond and Verrecchia, 1991 and Baiman and Verrecchia, 1996). Lang Lundholm (1996) investigate the determinants of voluntary disclosure and find that larger firms, firms with higher stock returns, and firms undertaking equity or debt offerings have higher level of disclosure than their counterparts. Welker (1995) adds that simultaneity may well exist between the firm's choice of disclosure policy and investors' assessments of the information asymmetry. He finds that firms with disclosure rankings in the bottom third of the empirical distribution have spreads that are approximately 50 percentage higher than firms in the top third. Healy, Hutton, and Palepu (1999) extend the analysis of Welker (1995) and find that, in addition to stock liquidity, voluntary disclosure is accompanied by improved stock performance, increased institutional ownership, and more analysts following. Sengupta (1998) investigates the link between disclosure quality and the firm's cost of debt financing and finds a negative association between the two. Aforementioned empirical results are all based on analyst ratings of the firm's overall disclosure policy by the Association for Investment Management and Research (AIMR). The AIMR metric measures disclosure quantity through a broad range of channels including analyst meetings and conference calls. However, the metric has several limitations: The rankings are only available for a subset of large U.S. firms during the 1980s and 1990s. Since the disclosure levels are positively correlated with firm size (Lang and Lundholm, 1993), AIMR firms are unlikely to display sufficient cross-sectional variation in disclosure levels that exhibit strong and generally applicable results (Botosan, 1997). In addition it is unclear how frequent and at which point in time the AIMR metric is reassessed. For example, Healy, Palepu and Sweeney (1995) are able to identify only 90 large and sustained increases in AIMR disclosure rankings in a sample of 595 firms in 23 countries over the period 1980 to 1990. This fosters concerns about serious endogeneity problems of previous results. It is also

unclear whether the analysts on the AIMR panels take the ratings seriously, how they select firms to be included in the ratings, and what bias they bring to the rating (Healy and Palepu, 2001). Botosan (1997) constructs an own disclosure index to measure the association between disclosure level and the cost of equity capital. She focuses on the year 1990 and a relatively small sample of 122 observations from the machinery industry to measure within-industry variation and to avoid measuring country-specific influences that may drive the results. She finds a negative association only for firms with low analyst following, but the results do not extend to firms with high analyst following. Similarly, Hail (2002) investigates the association between voluntary disclosure and cost of equity capital in an environment where firms had considerable reporting discretion and mandated level of disclosure was low. His sample comprise of 73 non-financial Swiss companies. Mitigating self-selection bias by using a 2SLS approach, he generally finds a negative association between voluntary disclosure and the cost of capital. Francis, Nanda, and Olsson (2008) point out that it is not obvious that greater voluntary disclosure should lead to lower information asymmetry. Earlier theoretical research had shown that additional voluntary disclosure may lead to a more asymmetric information environment than would exist in their absence (Kim and Verrecchia, 1994; Zhang, 2001). Francis, Nanda, and Olsson (2008) argue that association between voluntary disclosure and cost of capital may be largely driven by omission of correlated earnings quality. They use a self-constructed disclosure index, based on the disclosure index by Botosan (1997) and increase the sample size from 122 observations to 677 sample firms in one year (2001). They find that the relation between voluntary disclosure and the cost of capital is substantially reduced when they control for earnings quality. However, it remains unclear whether earnings quality drives voluntary disclosure, vice versa, or whether the proxy for voluntary disclosure just measures the same as the proxy for earnings quality. Overall, both the AIMR and the self-constructed disclosure score by Botosan (1997) are weak proxies

for complementary financial measures as the AIMR score lacks cross-sectional variation in disclosure levels and is skewed towards large companies (Botosan, 1997) and the self-constructed measure has bad distributional properties i.e., financial measures, which are not easily discernible from annual reports or other resources, are very rare (Francis, Nanda, and Olsson, 2008).

2.2 Mandatory Disclosure in Accordance with IFRS

Instead of measuring the relationship between voluntary disclosure and potential capital market outcomes directly, another stream of literature focuses on the association between voluntary IFRS adoption and capital market outcomes. Although IFRS prescribes not only the content of information that have to be disclosed but also the recognition and measurement of financial statement items, the effect of voluntary IFRS adoption on capital market outcomes may partly be driven by the disclosure component. The strength of the IFRS setting is that switching from a local standard to IFRS cannot easily be reversed and, thus, represent a strong commitment device to disclosure in the future (Leuz and Verrecchia, 2000). Leuz and Verrecchia (2000) focus on Germany, a country with relatively low disclosure level within the sample period, and investigate firms that had switched from German GAAP to either IFRS or U.S. GAAP. They find that voluntary IFRS or U.S. GAAP adoption leads to lower information asymmetry as measured by the bid-ask spread and share turnover compared to compliance with German GAAP. In addition, Leuz (2003) finds that the bid-ask spread and the share turnover of German firms that voluntarily adopt IFRS are not significantly different from those that voluntarily adopt U.S. GAAP. Daske (2006) extends the analysis in Leuz and Verrecchia (2000) to the cost of capital and analyzes this association for a German sample in the period between 1993 and 2002. He finds no significant relation between the cost of capital and the adoption of either IFRS or U.S. GAAP. Similarly, Cuijpers and Buijink (2005) also

fail to find a relation between cost of capital and the adoption of either IFRS or U.S. GAAP for a broader European sample. However, they find a positive association between analysts following and the adoption, suggesting that the reduction in information asymmetry is small. Daske et al. (2013) partition voluntary IFRS adopters into serious and label adopters.[1] They conclude that IFRS reporting does not constitute a commitment to increase transparency per se and that, on average, association between voluntary IAS adoption and market liquidity or cost of capital is either insignificant or points in the wrong direction. In addition, they find that serious adopters experiencing substantial changes in their reporting incentives around IFRS adoption show a significant increase in market liquidity and a decrease in cost of capital relative to label adopters.

When IFRS became mandatory for listed firms in the European Union, it attracted much attention by academics. A large set of literature documents positive capital market effects such as higher stock liquidity (e.g. Daske et al., 2008), lower cost of capital (e.g. Daske et al., 2008; Li, 2010), lower forecast errors and forecast dispersion (e.g. Byard, Li and Yu, 2011), and higher foreign investments (DeFond et al., 2011; Khurana and Michas, 2011). However, Daske et al. (2008), Byard, Li and Yu (2011), and Shima and Gordon (2011) note that the positive capital market effects are conditional on countries with strict enforcement regimes or strong incentives to be transparent. These findings raise concerns whether the results are driven by concurrent reporting and enforcement changes or are indeed the result of mandatory IFRS adoption. In addition, Daske et al. (2008) document an increase in market liquidity for voluntary IFRS adopters in the year when IFRS became mandatory in the European Union. They argue that one potential explanation for this capital market effect is that voluntary adopters benefit from an increased set of comparable firms, which in turn could lead to improved risk sharing across a large set of investors. However, they find no significant results

[1] Serious adopters change their reporting policy as a result of adopting IFRS whereas label adopters make no material change to their reporting policy.

that would underline this theory. In contrast, they find evidence that the effect stems from concurrent institutional changes. Voluntary adopters likely have better reporting incentives to begin with and, hence, should be more responsive to institutional changes like the mandatory IFRS adoption. Christensen, Hail, and Leuz (2013) extend the analysis of Daske et al. (2008) and find that mandatory IFRS reporting, on average, had little impact on liquidity. Their analysis shows that observed liquidity effects are unrelated to the enforcement level and legal quality of the countries but are concentrated in EU countries only. Overall, they suggest that that enforcement changes in a few EU countries play a critical role for the previously documented liquidity effects but they do not rule out that IFRS still plays a critical role in combination with those changes in enforcement regulations.

Overall, using (voluntary) IFRS adoption as a positive shock to (voluntary) disclosure initially seemed like a strong setting to identify potential capital market effects. However, concurrent enforcement changes in the EU made it difficult for researchers to disentangle the enforcement effect from the IFRS effect. Even if we assumed that (voluntary) IFRS adoption affects capital market outcomes, we still cannot assign the effect exclusively to increased disclosure because IFRS provides rules that do not only mandate the disclosure of certain information but also the recognition and measurement of financial statement positions. Furthermore, we have no information whether the capital market effects can be generalized to all industries or whether the IFRS standard suits some industries better than others.

2.3 Voluntary Disclosure Literature After Mandatory IFRS Adoption

Results whether voluntary disclosure of supplemental information has significant and material effects on capital market outcomes remain mixed. In addition, there is no evidence that voluntary disclosure may still be able to produce positive capital market outcomes when company's already comply with an international accounting standard. Balakrishnan et al.

(2014) is a recent study that sheds light on the causality of voluntary disclosure in the presence of IFRS on liquidity. They exploit a natural experiment that uses 43 closings of brokers during 2000 and 2008 as an exogenous shock to analyst coverage. Measuring voluntary disclosure in the form of guidance regarding their quarterly EPS numbers, they find that the reduced liquidity after a coverage shock can recover faster if firms provide increased disclosure. On the contrary, firms without a history of those disclosures suffer a lasting hit to liquidity. They also show that the benefit of voluntary disclosure is economically significant and that failure to control for endogeneity of voluntary disclosure seriously biases estimate of the beneficial effect of disclosure on liquidity downwards.

3. EPRA and the Real Estate Industry

The EPRA BPR were originally developed to provide real estate companies with "additional guidance on how to interpret and apply IFRS accounting consistently across Europe" (EPRA, 2010). With the establishment of IFRS, the focus moved to the disclosure of key performance indicators that were seen to be of most relevance to investors. These EPRA performance measures form an industry-wide set of financial reporting key performance indicators (KPIs) that are building on the reporting figures published in IFRS reports. As such, they are intended to be a complement to IFRS reporting rather than a substitute. They share a goal similar to IFRS by striving to make the financial statements of public real estate companies "clearer, more transparent and comparable across Europe" (EPRA, 2010). EPRA BPR state that these additional disclosures are useful because financial statements under IFRS do not provide stakeholders with the most relevant information to assess the firm's operating performance and its financial position.

EPRA BPR define six performance measures to address the issue. (i) EPRA Earnings are intended to provide a measure of the performance of the property portfolio. They exclude,

among others, changes in the values of investment properties as well as profits and losses on disposal thereof. These profits and losses are judged to be not relevant to the recurring performance of the portfolio and should therefore not affect EPRA EPS. Instead, EPRA EPS focuses on recurring items such as rental income, property expenses, and personnel expenses.

(ii) The EPRA Net Asset Value (NAV) is a measure for the fair value of the property portfolio. Compared to the NAV per the financial statements, which firms usually approximate by the book value of equity, the EPRA NAV incorporates all revaluations of investment properties, tenant leases, and trading properties that are held at amortized cost on the balance sheet. It, thus, accounts for differences in the valuation models applied across firms and provides an industry-wide more comparable measure of the property portfolio. In addition, EPRA NAV excludes the fair value of financial instruments, deferred taxes, and goodwill related to deferred taxes.

To provide information on the fair value of *all* assets and liabilities of the firm, (iii) the EPRA Triple Net Asset Value (NNNAV) includes the fair value of financial instruments, deferred taxes and goodwill related to deferred taxes.

EPRA BPR define furthermore (iv) the EPRA Net Initial Yield (NIY) and (v) the EPRA Vacancy Rate, two KPIs that show considerable variation and inconsistencies across real estate firms if they do not comply with EPRA BPR. In 2014, EPRA BPR added (vi) the cost ratio as a sixth measure, which is intended to provide a base-line from which further, more detailed information on costs can be disclosed.

To further improve the usefulness of disclosed figures, EPRA BPR recommend the use of an external appraiser on an at least annual basis who values the firm's properties according to the International Valuation Standards (IVS). The names of the valuation firms as well as the basis of the fees are also recommended to be disclosed. Additional recommended disclosures

include a list of the major properties owned, information on the development program, and like-for-like rental growth measures.

Once a year, Deloitte issues Gold, Silver, and Bronze accreditations in their EPRA Annual Report Survey to companies implementing EPRA BPR. In 2014, 50 percent of the companies in the survey gained an award. 25 companies received Gold awards, 9 Silver awards, and 8 Bronze awards (Deloitte, 2014). 81 percent disclosed at least one EPRA performance measure and 33 percent disclosed all 6 performance measures. EPRA BPR has gained considerable momentum in the last years and can be considered well established in the European real estate sector as of mid-2015.

4. Hypothesis Development

Prior literature finds evidence indicating that serious voluntary and mandatory IFRS adoption leads to higher liquidity and lower costs of capital when combined with a high enforcement environment. These findings empirically underpin the general consensus that financial statements prepared in accordance with IFRS provide information that is valuable to investors. The value of IFRS figures may vary from industry to industry though, as the types of measures relevant for equity valuation are context dependent (e.g., Daske et al., 2008; Armstrong et al., 2010; Byard, Li, and Yu, 2010; Horton, Serafeim, Serafeim, 2013). For some sectors, IFRS may not provide measures specific enough to cover all information needs of investors and other stakeholders. IFRS figures may either offer measurement leeway that impair their comparability across firms, be computed in a way that is not directly useful to investors, or be simply missing. In these sectors, voluntarily disclosing additional information cannot completely solve the problem as unstandardized figures that vary from firm to firm lack comparability. This issue might explain the mixed results in empirical studies on the

benefits of voluntary unstandardized disclosure (e.g., Botosan, 1997; Francis, Nanda, and Olsson, 2008).

Standardization of voluntary information can be achieved by sector guidance on the scope and nature of key measures. In the European real estate sector such a set of standardized voluntary disclosures has been developed with EPRA BPR. EPRA BPR aim to bridge the gap between IFRS figures and investor's information needs to attract investments in the listed property sector through consistent and relevant supplemental information. This objective leads us to our first hypothesis:

H_1: EPRA BPR figures provide information useful to investors.

We investigate the economic consequences of EPRA BPR adoption. Specifically, we are interested in the association between EPRA BPR disclosures and capital market outcomes such as stock liquidity, cost of capital, and analyst following.

Better disclosure can decrease information asymmetry between holders and potential buyers of firm shares and thus reduce adverse selection. This decreases the bid-ask spread as buyers demand a lower premium to trade with potentially better informed sellers (Kim and Verrecchia, 1994; Leuz and Verrecchia, 2000). Similarly, better disclosure can reduce a firm's cost of capital by attracting investors due to increased liquidity of its securities. Put differently, to attract investors into less liquid securities, issuers must issue capital at a discount (Diamond and Verrecchia, 1991; Leuz and Verrrecchia, 2000). The theoretical relation between the amount of disclosure information and the number of analysts following, however, is ambiguous. Assuming analysts act primarily as *information intermediaries*, their job consists in collecting public information through different channels, processing them into a more concise and easier-to-absorb form, and transmitting them to the capital market. In such a system, an increase in the amount of information will increase the demand for analyst

services and eventually increase the equilibrium number of analysts (Bhushan, 1989). However, if analysts act primarily as *information providers*, who distribute ex-ante private information to the capital market, an increase in firm-provided information will substitute for the analyst report (Lang and Lundholm, 1993). Empirically, Lang and Lundholm (1996) find evidence that analysts follow firms with higher disclosure quality; Dhaliwal et al. (2011) and Gao et al. (2015) document that analyst following increase with the initiation of CSR reports. We, thus, hypothesize the following:

H_2: Complying with EPRA BPR increases stock liquidity, reduces cost of capital, and increases analysts following.

Firms will voluntarily adopt EPRA BPR only if benefits outweigh the administrative costs of implementing EPRA BPR. The aforementioned benefits seem particularly important when firms need external financing. Thus, firms raising capital may choose to adopt EPRA BPR to improve the quality of their disclosure in an effort to reduce the cost of capital (Dhaliwal et al., 2011; Gao et al., 2015). Moreover, the extent to which firms decide to comply with EPRA BPR may also vary. For example, managers may choose to opaque about their performance during times with low stock price performance. Alternatively, already adopting firms may choose to increase the extent of compliance with EPRA BPR when they need financing.

H_{3A}: Firms expanding or planning to expand their investor basis are more likely to adopt EPRA BPR.

H_{3B}: Firms with strong stock market performance and firms expanding or planning to expand their investor basis comply to a greater extent with the EPRA BPR.

Adopters and non-adopters are affected differently by the establishment of a set of common standards to achieve higher levels of disclosure. For adopters, the capital market benefits may increase with the widespread application of the standards: The more the standards are applied in the sector, the greater the pool of comparable firms and the higher the transparency. We call this effect the *dissemination effect*.

Non-adopters may be affected by the *spillover effect* which describes how the benefits transfer to non-adopters. The direction of this effect is not a priori obvious. If the spillover effect is positive, non-adopters benefit from the increased liquidity and lower cost of capital in the sector. If spillover effects do not exist, the benefits do not transfer to non-adopters. If spillover effects are negative, non-adopters suffer from adverse effects. This may be the case if investors become reluctant to invest in those companies that do not apply EPRA BPR leading to lower liquidity and higher costs of capital for these firms.

The adoption speed of a set of best practice recommendations in a sector depends on the intensity and direction of the spillover and dissemination effect. If the dissemination effect is weak and non-adopters benefit from positive spillover effects, the standards will spread slowly across the sector and will eventually stagnate at a low level. Only a few firms will have adoption costs below the adoption benefits, while most firms will maximize their firm value by not-adopting the EPRA BPR and rather profiting from its spillover effects on the whole sector. If, on the contrary, the dissemination effect is strong and non-adopters suffer from negative spillover effects, the standards will rapidly spread across the sector. Firms with high adoption cost may initially maximize their value by not adopting the standards. The more the standards spread across the sector, the greater the benefits and the more investors get reluctant towards non-adopters. These effects may eventually heave the cost of non-adoption above the adoption cost, pushing more and more companies towards adopting the EPRA BPR.

The popularity and rapid adoption of EPRA BPR in the European real estate sector points to a positive dissemination effect, a negative spillover effect, or a combination of both. We thus formulate our fourth hypotheses as follows:

H_{4A}: The benefits of EPRA BPR compliance increase with its propagation in the European real estate sector.

H_{4B}: The negative effects from EPRA BPR non-compliance increase with its propagation in the European real estate sector.

5. Sample Selection, Disclosure Score, and Summary Statistics

5.1 Sample Selection Process

Table 1 outlines the sample selection process. We construct our sample from the constituent list of the FTSE EPRA/NAREIT Developed Europe Index as of November 19, 2014 (+95) and the list of EPRA Members as of December 20, 2014 (+26). We exclude firms for which annual reports are unavailable through the sample period (-9). This procedure results in 112 potential sample firms. The sample period spans five fiscal years starting in 2009 and ending in 2013 yielding 560 potential firm-year observations.[2] We eliminate firm-years in which firms are not publicly traded, which might be the case if firms were inexistent at that time, merged with another company, or ceased their existence. Eventually, our sample comprises of 528 firm-years. Depending on the regression models, additional observations were dropped from the sample because of missing values.

[2] EPRA issued a significant revision of its BPR in July 2009 in which they extended the set of EPRA performance measures from three (EPRA EPS, EPRA NAV, and EPRA Triple NAV) to six adding the EPRA Net Initial Yield, the EPRA 'topped-up' NIY, and the EPRA Vacancy Rate. In addition, Deloitte changed their approach to their annual survey in 2009. Rather than recognizing only a handful of best-in-class annual reports, they started awarding virtual medals to investment property companies that comply to a certain degree with the BPR.

To examine the effect of EPRA disclosure on capital market outcomes, we first hand-collect data from 528 annual reports on the degree of compliance with EPRA BPR. We use this data to construct our disclosure scores (*EPRA Overall Score* and *EPRA Performance Measures*). To complement these two scores, we examine the EPRA Annual Report Surveys as issued by Deloitte to gather information on a third-party disclosure score (*Medal*).

We draw data on forecast biases and analyst coverage from the Thompson Reuters I/B/E/S; data on debt and equity offerings from Thomson Reuters SDC Platinum; data on countries' legal quality from Kaufmann et al. (2010); financial data from Thomson Reuters Datastream; and disclosure information manually from firms' annual reports. All variable definitions are presented in Appendix A.

5.2 Disclosure Statistics and Score Construction

Table 2 provides descriptive statistics on the disclosure quality relating to investment property assets. On average, we observe that firms spend 40.56 pages or 26% (40.56 ÷ 155.84) of their annual reports on notes complementing the financial statements. We count, on average, 23.97 occurrences of the word "EPRA" and 3.36 EPRA figures in the annual reports. The amount of EPRA figures disclosed increased significantly and gradually from 1.29 to 4.92 in our sample period. Firms use external appraisers, who assess the value of the assets at least once a year, in about 90% of the annual reports. The EPRA BPR recommend including five tables in each annual report disclosing certain information in a specific structure. However, only 0.25 tables are disclosed, on average, and only 8% of the annual reports have at least one table. In comparison, 65% of all annual reports disclose at least one EPRA performance figure suggesting that the tables are far less popular among preparers than the disclosure of EPRA performance figures. 93% use a fair value approach for the measurement of investment property assets.

To measure the disclosure effort for a given investment property firm in a year, we compute three proxies. The first proxy *EPRA performance measures* is a variable that counts the number of EPRA figures specified in the EPRA BPR including EPRA EPS, EPRA NAV, EPRA NNNAV, EPRA NIY, EPRA NIY 'topped up', EPRA vacancy rate, EPRA cost ratio including vacancy costs, and the EPRA cost ratio excluding vacancy costs. The former three figures should be disclosed on a per-share as well as on an absolute basis. As a result, there are 11 figures to be disclosed.

Second, we propose an alternative proxy *EPRA overall score*. The overall score can be separated into two parts: The number of EPRA performance measures a company reports in their annual reports, closely related to the *EPRA performance measures*, and the degree of additional disclosure in compliance with the EPRA guidelines. Regarding the first part, firms receive 1 point for each EPRA performance figure as mentioned above except for the EPRA vacancy rates, which is awarded 2 points (12P).[3] In the second part regarding additional disclosure we give 1 point for each of the following valuation techniques or disclosures in the annual report: a separate part on the EPRA BPR (1P), a list of the major properties owned (1P), a list of all development and redevelopment properties (1P), the standardized tables (5P; 1P for each table), the fair value change due to the new IFRS definition of fair value in 2013 (1P), investment property assets was valued by external appraisers within the last year (1P), the report is available in English (1P), and the investment property assets on the balance sheet are measured using the fair value approach (1P).[4] In total, each company can reach up to 12 points for the first and 12 points for the second part. The total number of points is divided by

[3] Basically, there are six individual figures (EPRA EPS, EPRA NAV, EPRA NNNAV, EPRA NIY, EPRA vacancy rate, and EPRA cost ratio) that should be calculated on two different ways except for the EPRA vacancy rate. We award 2 points to each of those six individual figures.

[4] Since 1 January 2013, IFRS 13 – Fair Value Measurement became effective adopting a highest-and-best-use approach to the measurement of non-financial assets. The new definition affected investment property values. However, only a limited number of firms disclosed those changes that stem from the change in the definition.

24 to scale our score between 0 and 1. Table 2 summarizes the items that were considered and the corresponding weights.

To complement our results with a third-party disclosure score, we consider the virtual *medals* that are awarded each year by Deloitte based on a review of the firms' financial statements. Gold, silver, and bronze medals are awarded for reports scoring "exceptionally", "highly", and "well", respectively, based on compliance with EPRA BPR. We observe that 30% of our firm-year observations have received an honor in the EPRA Annual Report Survey for their disclosure. Firms that received a gold medal reported all six EPRA performance measures in a separate EPRA BPR section including calculations. However, a complete list of criteria that shaped Deloitte's assessment of whether a firm should receive either a gold, silver, or bronze medal is not publicly available. We define a binary variable that equals 1 for years in which the firm received a silver or gold medal and 0 otherwise. We exclude bronze medals as these are the lowest awards and may not indicate compliance on a level high enough to lead to observable market reactions. Untabulated Pearson's correlation of 0.6323 suggests that our *EPRA overall score* and gold and silver medals are highly correlated.[5]

5.3 Summary and Distributional Statistics

Table 3 reports summary statistics on the 528 firm-year observations for all test variables (definitions of all variables are presented in Appendix A). We observe that firms within our sample exhibit, on average, narrow spreads (0.47%), low cost of capital (7.65%) and a high number of analysts following (6.41).[6] Also, s*ize* exhibits that the market capitalization of the sample firms is large (EUR 0.63 bn). *Legal quality* of our sample is 1.49 suggesting that the

[5] If we measure medal equal to 3 if the firm received gold, 2 if silver, and 1 if bronze, instead of using a dummy, the Pearson's correlation becomes 0.6969.

[6] Charoenwong, Chong, and Yang (2014), for example, find an average Log(*Spread*) of -4.745 for a broad sample of international firms from 1996 to 2010 compared to -5.37 in our sample. Hail and Leuz (2006) calculate a cost of capital of 12.49% for the period between 1992 and 2001 for a broad sample of international firms.

quality of the legal system within our sample is strong.[7] Hence, we focus on an ex-ante strong legal environment and a sample of firms that all comply with the internationally accepted accounting standards IFRS. We applied log-transformation for *spread*, *cost of capital*, *returns*, and *size* to make the positively skewed distributions more normal.

Table 4 reports distributional statistics for the measurement of investment property assets and three different disclosure scores. 92% (488 ÷ 528) of all firm-years apply the fair value approach for the measurement of investment properties while only 8% (40 ÷ 528) use the amortized cost approach. Disclosure is measured using the number of EPRA figure disclosed in the firm-year's annual report; a self-constructed overall score that measures the degree to which firms comply with the EPRA BPR; and an indicator variable equals to 1 if the firm received an honor in form of a virtual medal in the firm-year's corresponding EPRA Annual Report Survey as issued by Deloitte, and zero otherwise.

Panel A Table 4 shows that the firms are located in 16 different countries whereof 69% of all observations stem from the United Kingdom (31%), Germany (13%), France (10%), Sweden (8%), or Belgium (7%). The amortized cost approach is used only in five countries (Germany, France, Turkey, Spain, and Sweden).[8] Examining the average number of EPRA figures disclosed in an annual report, the average EPRA overall score and the density of total medals per total observations, Belgium, Finland, France, the Netherlands, Switzerland and the United Kingdom can clearly be considered as *above average*. Hence, 61% of the firm-year observations stem from high disclosure countries.

Panel B of Table 4 shows how the measurement of investment property assets and the three disclosure scores evolve over time. Whereas the percentage of firms that apply the

[7] In comparison, legal quality within the United States in the same time frame was 1.36. Overall, Hong Kong (1.89) exhibits the highest coefficient whereas North Korea (-2.47) exhibit the lowest coefficient. Only eight out of 215 countries outside from our sample exhibit larger coefficients.

[8] Sometime local laws and exchange rules prohibit firms from using the amortized cost approach for measuring investment property assets.

amortized cost approach remained relatively constant, almost all three disclosure scores increased gradually over time. Untabulated descriptive statistics show that Pearson Correlations between the three disclosure scores are all positive and significant at the 0.001 significance level.[9]

6. Empirical Analysis

6.1 Value Relevance

We begin our empirical analysis by investigating the value relevance of EPRA NAV, EPRA NNNAV, and EPRA EPS compared to IFRS book value of equity and IFRS EPS. The significance of the relationship between disclosed accounting figures and share prices captures whether figures provide both relevant and reliable information to investors (Barth, Beaver, and Landsman, 2001). By regressing share price levels on a set of different performance measures, we are able to evaluate the value relevance and thus the decision usefulness of the information (Easton, Eddey, and Harris, 1993).

Following Barth and Clinch (1998), our value-relevance models investigate the relationship between price per share (*PPS*) and a measure of equity value and periodical performance as follows:

$$PPS_{i,t} = \beta_0 + \beta_1 NAV_{i,t} + \beta_2 PERIODICAL\_PERFORMANCE_{i,t} + \varepsilon_{i,t}, \quad (1)$$

where *NAV* is either book value per share, EPRA NAV per share, or EPRA NNNAV per share and *PERIDICAL_PERFORMANCE* is IFRS EPS or EPRA EPS.

Regressing price per share on all combinations of equity-value measures and periodical-performance measures results in six OLS regression model. We compare the R^2-statistics of the regression model to identify whether a certain figure dominates the others.

[9] Correlation between *EPRA Figures* and *EPRA Overall Score* is 0.9420; correlation between *EPRA Overall Score* and *Medal* is 0.6323; and correlation between *EPRA Figures* and *Medal* is 0.6605.

[Table 5 here]

Table 5 reports regression results based on equation (1). We find significant relations between *PPS* and all proxies for equity value and periodical performance. This is consistent with Liang and Riedl (2014) who provide anecdotal evidence that both EPS and NAV figures and their corresponding forecasts are primary inputs into analyst's target price estimates. T-statistics and R^2-statistics of models using EPS as periodical performance measures (column 1, 3, and 5) dominate models using EPRA EPS (column 2, 4, and 6) in all model specifications. Further, the two EPRA-equity-book-value measures exhibit higher *t*-statistics and R^2-statistics than the book value of equity based on IFRS. Within the EPRA measures, we observe only minor differences in value relevance between EPRA NAV and EPRA NNNAV, which is a result of the high correlation between EPRA NAV and EPRA NNNAV.[10] The results suggest that EPS combined with EPRA NAV or EPRA NNNAV are the performance measures that reflect information that is more relevant and reliable to investors compared to EPRA EPS and book value of equity. This result seems reasonable as the real estate sector is one of the few for which both balance-sheet (NAV) and income-statement forecasts (EPS) are commonly observable (Liang and Riedl, 2014). For income-statement forecasts, EPS is still the predominant performance measure. The second primary input for investors to determine target prices is the NAV. However, NAV is a measure that is not mandated by IFRS and is usually missing in IFRS reports. Hence, stakeholders sometime use equity book value to proxy for NAV. EPRA closes this information gap by recommending that NAV should be disclosed and calculated in accordance with the EPRA BPR.

[10] Correlation between *EPRA NAV* and *EPRA NNNAV* is 0.9971.

6.2 Effects on Liquidity, Costs of Capital, and Analyst Following

We estimate the effects of EPRA BPR compliance on liquidity, costs of capital, and analyst following. We compute liquidity (*Spread*) as the median logarithmic proportional weekly bid-ask spread measured four months after the reporting date. The spread is measured as the difference between the closing bid and ask price of the trading day divided by the midpoint.

We estimate the ex-ante costs of capital implied in contemporaneous stock price and analyst forecast data (*COC*) similar to Hail and Leuz (2006) according to four different models suggested in Claus and Thomas (2001), Gebhardt, Lee and Swaminathan (2001), Ohlson and Juettner-Nauroth (2005), and Easton (2004). For some firm-quarters, estimates cannot be computed for all four models. The reason is that the underlying equation of the model does not always have an economically meaningful solution for all possible input values of stock prices and analyst forecast. To compensate the missing estimates, as well as to reduce a possible estimation bias, we compute the average value of the available costs of capital estimates. Costs of capital have – similar to the proportional bid-ask spread – a log-normal distribution. We therefore use the logarithm of the said average in our regressions.

We estimate the number of analysts following by counting the number of firm's annual earnings forecasts two month after the fiscal year end. We take earnings forecasts because there are more EPS estimates available than NAV estimates, which leads to more variation and eventually stronger inferences.

For the liquidity effect of EPRA BPR compliance, we estimate the following regression:

$$\begin{aligned}\text{Log}(Spread)_{i,t} = {} & \beta_0 + \beta_1 EPRA_{i,t} + \beta_2 Vol_{i,t} + \beta_3 Turnover_{i,t} + \beta_4 Size_{i,t} + \beta_5 Chs_{i,t} \\ & + \beta_6 LegalQuality_{i,t} + \beta_7 AnaCov_{i,t} + \varepsilon_{i,t}\,, \end{aligned} \tag{2}$$

where EPRA is one of the three measures described in section 5.2. Following the current literature on the effects of disclosure on liquidity, we include stock volatility (*Vol*), share turnover (*Turnover*), and the logarithmic transformation of the market capitalization (*Size*) as control variables for effects unrelated to disclosure quality.

In addition, we include inside ownership (*Chs*) into the regression because prior literature has shown that the association between disclosure quality and cost of capital can be separated into two separate effects: a direct effect in which disclosure reduces parameter uncertainty regarding the estimate of expected returns and an indirect effect in which disclosure reduces the need for inside ownership to align the entrepreneur and the reduced inside ownership increases cost of capital (Core, Hail, and Verdi, 2015). Without controlling for inside ownership, the indirect effect abates the negative relation between disclosure quality and cost of capital. We thus include *Chs* as a control variable because stock liquidity and cost of capital might be correlated (Diamond and Verrecchia, 1991; Leuz and Verrrecchia, 2000).

We also include legal quality (*LegalQuality*) and analyst following (*AnaCov*) because prior research has identified an association between disclosure quality and legal systems (e.g. Shleifer and Vishny, 1997; La Porta et al., 2000; Leuz, Nanda, and Wysocki, 2003) and disclosure quality and analysts following (e.g. Lang and Lundholm, 1996; Dhaliwal et al., 2011; Gao et al., 2015).

[Table 6 here]

Table 6 reports the regression results of equation (2). All three variables measuring EPRA BPR compliance i.e., *Medal*, *EPRA Overall Score*, and *EPRA Performance Measures*, are significantly negative at the one-percent level for all three versions of the equation. This indicates that firms compliant with the EPRA BPR benefit from higher liquidity compared to firms that are not or only weakly compliant.

The results further show that firms with high proportions of closely held shares and high analyst following have higher liquidity i.e., a lower spreads. We, however, don't find any effects for the regulatory environment (*LegalQuality*).

We have an R^2 between 60 and 70 percent for the medium and the full variant of the regression equation, which is comparable to existing studies on the effects of disclosure on liquidity (e.g. Daske et al., 2013 and Christensen, Hail, and Leuz, 2013).

We analyze the effect of EPRA BPR compliance on costs of capital by estimating the following regression:

$$\begin{aligned}\text{Log(COC)}_{i,t} = {} & \beta_0 + \beta_1 EPRA_{i,t} + \beta_2 Vol_{i,t} + \beta_3 Turnover_{i,t} + \beta_4 Size_{i,t} + \beta_5 Chs_{i,t} \\ & + \beta_6 LegalQuality_{i,t} + \beta_7 AnaCov_{i,t} + \beta_8 FcBias_{i,t} + \beta_9 Btm_{i,t} + \beta_{10} Lev_{i,t} \\ & + \beta_7 Roa_{i,t} + \varepsilon_{i,t}\,. \end{aligned} \quad (3)$$

We include all explanatory variables from equation (2). Additionally, we include forecast bias (*FcBias*), book-to-market ratio (*Btm*), leverage ratio (*Lev*), and return on assets (*Roa*) (e.g. Hail and Leuz, 2006).

[Table 7 here]

Table 7 reports the regression results of equation (3). The coefficients of *Medal* and *EPRA Performance Measures* are significant either at the one- or five-percent level for all variants of the regression. Only the coefficients of *EPRA Overall Score* lose significance in the third variant (column 6). We have an R^2 of 35 percent for the full variant, which is at the lower end of what Hail and Leuz (2006) find.[11] The control variables exhibit signs that are in line with Hail and Leuz (2006) or prior research except for share turnover (*Turnover)*. The positive association between share turnover and cost of capital seem to stem from other

[11] Hail and Leuz (2006) have an R^2 between 36 and 60 percent for the regressions of the cost of capital measures. Compared to their study, we use the logarithmic transformation of the cost of capital, which reduces our R^2 by up to 90bp.

underlying factors that are correlated with turnover. We, however, gain confidence in our results from the fact that the omission of turnover does not change any signs or the significance of the main coefficients. Overall, the results indicate that EPRA BPR compliant firms have lower cost of capital.

We analyze the effect of EPRA BPR compliance on analyst following by estimating the following regression:

$$AnaCov_{i,t} = \beta_0 + \beta_1 EPRA_{i,t} + \beta_2 Vol_{i,t} + \beta_3 Turnover_{i,t} + \beta_4 Size_{i,t} + \beta_5 Chs_{i,t} + \beta_6 LegalQuality_{i,t} + \beta_7 FcBias_{i,t} + \beta_8 Btm_{i,t} + \beta_9 Lev_{i,t} + \beta_{10} Roa_{i,t} + \varepsilon_{i,t} \quad (4)$$

We include all explanatory variables of equation (3) with the exception of *AnaCov*, which is the depend variable in equation (4).

[Table 8 here]

Table 8 reports the regression results of equation (4). All EPRA compliance measures i.e., *Medal*, *EPRA Overall Score*, and *EPRA Performance Measures*, are significantly positive at the one-percent level. This indicates that firms that are EPRA-compliant attract more analysts than firms that are not.

To be sure that the results above point to a directional effect between EPRA BPR compliance and higher liquidity, lower costs of capital, and analyst following, we have to rule out that firms that ex-ante have high liquidity, low costs of capital, or high analyst following are more likely to be compliant than firms that don't. We control for this self-selection bias by estimating (2), (3), and (4) each as three-stage least square regressions. We perform a simultaneous estimation of two equations, the first one being equation (2), (3), and (4) and the second being our EPRA BPR compliance measure regressed on (i) the dependent variable i.e., Log(*Spread*), Log(*COC*), and *AnaCov*, (ii) the control variables of the respective equation,

and (iii) an additional variable to explain the compliance measure. We take as the latter variable *EPRA Performance Measures* for *Medal* and *EPRA Overall Score*, and a dummy variable that equals 1 if the firm has a separate EPRA part in its financial statements and zero otherwise for *EPRA Performance Measures*. The results are similar to the results in tables 6, 7, 8 and the inferences are identical. We can therefore reasonably rule out that self-selection drives our results.

We run additional regressions to examine whether differences in Log(*Spread*), Log(*COC*), and *AnaCov* can be explained by EPRA BPR compliance not only cross-sectionally but also within firms. We focus on firms that became compliant to EPRA BPR during the sample period i.e., firms for which we have observations before and after EPRA BPR adoption. This procedure yields 29 firms and between 126 and 135 firm-year observations. We regress Log(*Spread*), Log(*COC*), and *AnaCov* on *EPRA Application*, control variables that vary strongly across time and within firms, and year-fixed effects.[12] We use robust standard errors clustered by firms because standard errors within firms are likely to be correlated. Regression results suggest that firms profit from EPRA adoption through an increase in liquidity and an increase in analyst coverage. For the firms' cost of capital we fail to observe a significant effect of EPRA adoption.

Overall, we find evidence indicating that EPRA-BPR-compliant firms benefit from capital market effects associated with higher levels of disclosure. EPRA BPR compliant firms have higher liquidity, lower costs of capital, and higher analyst following.

6.3 Factors of EPRA BPR Compliance

We proceed to investigate the managerial incentives to comply with EPRA BPR. We conjecture that managers may choose to opaque about their performance during times with

[12] We do not include firm-fixed effects because we only have, on average, around four year-observations per firm, which would take out most of the variation.

low stock price performance. On the other hand, managers may be willing to disclose additional information if they intend to issue debt or equity to the market in order to increase transparency and thus lower their refinancing costs. To shed light on the determinants of EPRA adoption and the degree of compliance with EPRA, we estimate two equations. First, we run probit regressions of the following form:

$$EPRA\ Following_{i,t} = \beta_0 + \beta_1 log(returns)_{i,t} + \beta_2 DebtOffering_{i,t} + \beta_3 SeasonedEquityOffering_{i,t} + \beta_4 LegalQuality_{i,t} + \beta_5 Number\_of\_EPRA\_adopters_{i,t} + \varepsilon_{i,t}, \quad (5)$$

where *EPRA Following* is either *EPRA Adoption,* an indicator variable equal to one when firms received their first silver or gold medal in Deloitte's EPRA Annual Report Survey for the time period between 2010 and 2013 and zero otherwise, or *EPRA Application*, an indicator variable equal to one if firms received either a gold or silver medal in Deloitte's EPRA Annual Report Survey in the time period between 2009 and 2013 and zero otherwise.

Second, we run OLS regressions of the following form:

$$EPRA\ Compliance_{i,t} = \beta_0 + \beta_1 log(returns)_{i,t} + \beta_2 DebtOffering_{i,t} + \beta_3 SeasonedEquityOffering_{i,t} + \beta_4 LegalQuality_{i,t} + \beta_5 Number\_of\_EPRA\_adopters_{i,t} + \varepsilon_{i,t}, \quad (6)$$

where *EPRA Compliance* is either *EPRA Overall* Score or *EPRA Performance Measures* as described in section 5.2.

[Table 9 here]

Table 9 presents the regression results of equation (5) and (6). Column (1) and (2) report positive and significant coefficient estimates for *DebtOffering* in both model specifications i.e., including and excluding year-fixed effects, demonstrating that issuance of debt is positively associated with EPRA BPR adoption. More specifically, firms that issue debt within one year after the financial year end are more likely to adopt EPRA BPR to the extent

of at least receiving a silver medal in Deloitte's Annual Report Survey. Computing the marginal effects, we find that a subsequent debt offering increases the likelihood of EPRA BPR adoption by 7.6% and 6.4%, respectively. In addition, we find a positive association between the number of EPRA adopters (*Number_of_EPRA_adopters*) and EPRA BPR adoption in column (2) suggesting that firms benefit more from EPRA BPR adoption if more firms already comply with EPRA BPR. The association, however, vanishes with the incorporation of year-fixed effects, which seems reasonable as both year-fixed effects and number of EPRA adopters are only time-variant but firm-invariant.

Acknowledging that some of the other effects may not borne out because we only have 29 firms that newly adopt EPRA BPR in the time window between 2010 and 2013, we also investigate the association between EPRA application and the same potential determinants in column (3) and (4). The positive association of debt offerings remains significant in both specifications and the number of EPRA adopters also remains significant without year-fixed effect. Most interestingly, the marginal effect of debt offering increases to 23.6% and 23.4%, respectively, which speaks to the importance of incorporating EPRA BPR in the annual reports if a firm are in need of debt capital. In addition, firms with headquarters in countries with strong legal quality (*LegalQuality*) are also positively related to EPRA application.

Next we investigate the role of those determinants on the degree of compliance with EPRA BPR where we replace the dichotomous variable EPRA application by a continuous variables i.e., *EPRA Overall Score* and *EPRA Performance Measures*. Again, the coefficients that are significant for the dichotomous variable remain significant. Surprisingly, the logarithmic transformation of the annual stock price return becomes significantly negatively associated with the degree of compliance i.e., firms with lower annual stock price performance exhibit better compliance with EPRA BPR. This result seems to stand in contrast to findings in prior literature. However, we note that the degree of the compliance with EPRA

BPR usually remains constant or increases within a firm over time. In addition, this regression does not allow for within firm comparison but only for cross-sectional inferences. Taken together, we seem to capture that firms that increase the degree of compliance with EPRA have lower returns (*log(returns)).* Untabulated statistics including the interaction term *log(returns)*(DebtOfferings+SeconEquityOfferings)* in equation (6) suggest that the negative association is driven by firms that have both lower returns and conduct an offering within one year after the financial year end. Firm with low returns but without subsequent offerings do not show significant associations with the degree of EPRA BPR compliance.

6.4 Adoption and Spillover Effects

To measure the adoption and spillover effects we regress Log(*Spread*), Log(*COC*), and *AnaCov* (represented by *Dep* in equation (7)) on the percentage EPRA adopters (*PctEPRA*) and the interaction of *PctEPRA* with the binary variable *Adopter* which equals 1 for firm years of EPRA adopters and 0 otherwise:

$$Dep_{i,t} = \beta_0 + \beta_1 PctEPRA \ + \beta_2 PctEPRA_{it} \ * Adopter_{i,t} + \sum \beta_j \ Control_{i,t} + \varepsilon_{i,t} . \qquad (7)$$

PctEPRA measures the effects of EPRA BPR adoption for the group of EPRA non-adopters (spillover effect). *PctEPRA*Adopter* measures the incremental effects of EPRA BPR adoption for the group of EPRA adopters (dissemination effect). We expect a negative spillover effect and a positive dissemination effect. We thus expect the coefficient of *PctEPRA* to be positive for the dependent variables Log(*Spread*) and Log(*COC*) and negative for the dependent *AnaCov*, and β_2 to be negative for Log(*Spread*) and Log(*COC*) and positive for *AnaCov*.

[Table 10 here]

Table 10 reports the regression results for equation (7). The coefficient of *PctEPRA* is only statistically significant in model (7) - the base model - where it is negative. As the significance vanishes in models (8) and (9) we conclude that the non-adopters do not suffer from spillover effects.

When interacting *PctEPRA* with the adopter indicator variable the coefficient consistently meets our expectations across all models with statistical significance above the one-percent level. It is negative for models (1) to (6) and positive for models (7) to (9). Overall, the results indicate that the propagation of EPRA BPR in the European real estate sector increases its beneficial effects for the adopters i.e., the more EPRA BPR propagates in the sector, the greater the positive effects of the adoption on liquidity, costs of capital, and analyst following.

7. Summing up the Evidence

The results in section 6 indicate that firms compliant with EPRA BPR benefit from positive capital market effects. This shows that voluntary information that are provided additionally to IFRS figures do have informative value to investors and can increase liquidity, reduce costs of capital, and increase analyst coverage. This is all the more interesting, as these effects occur in a sector that already has a strong information environment.

Taking the results together, we can identify the following six factors that contribute to the rapid adoption and the eventual establishment of an industry-standard of disclosure practice: (i) The best practice recommendations are developed by an organization composed of sector representatives with focus on the industry-specific needs of the issuing firms and the information recipients (the EPRA); (ii) there is a body that assesses the quality and the conformity of the provided disclosures with the EPRA BPR (Deloitte); (iii) the EPRA BPR implement a set of *standardized* figures (EPRA NAV etc.) and valuation techniques (external appraisers at least one a yearly basis); (iv) there is an external driver that initiates the adoption

(debt offerings); (v) there is no free-rider problem because non-adopters do not benefit from any spillover effects (no spillover effects); and (vi) the positive adoption effects increase with the dissemination of the BPR (dissemination effect).

8. Conclusion

This study provides compelling evidence that voluntary application of standardized industry-specific accounting guidance provides additional value to the investors beyond IFRS. We exploit the listed European real estate setting to examine the determinants and effects of EPRA BPR compliance. We investigate whether industry-specific disclosure recommendations induce positive economic effects such as higher liquidity, lower cost of capital, and more analysts following. We further investigate which factors favor an EPRA BPR adoption and which factors determine the extent to which firms comply with EPRA BPR. Finally, we investigate the dissemination and spillover effects to better understand the rapid spread of EPRA BPR in the European real estate sector.

We find that EPRA NAV and EPRA NNNAV better explain stock price variations than IFRS equity, whereas IFRS EPS dominates EPRA EPS. We further show that firms complying with EPRA BPR benefit from lower cost of capital, higher stock liquidity, and higher analyst following. The results remain after controlling for self-selection with a three-stage least square regression. Moreover, we find that firms' debt offering plans and the proportion of EPRA BPR adopters in the European real estate sector play an important role for the firms' decision to comply with EPRA BPR whereas seasoned equity offerings seem not to be a primary factor. Finally we find that the positive effects of EPRA BPR compliance on liquidity, cost of capital, and analyst following for the individual firm increases with the number of firms applying EPRA BPR in the sector. These benefits do not spill over to firms not applying EPRA BPR.

References

Armstrong, C. S., Barth, M. E., Jagolinzer, A. D., and Riedl, E. J. (2010). Market reaction to the adoption of IFRS in Europe, *The Accounting Review*, 85(1), pp. 31–61.

Baiman, S. and Verrecchia, R. E. (1996). The relation among capital markets, financial disclosure, production efficiency, and insider trading, *Journal of Accounting Research*, 34(1), pp. 1–22.

Barth, M. E. and Clinch, G. (1998). Revalued financial, tangible, and intangible assets: Associations with share prices and non-market-based value estimates, *Journal of Accounting Research*, 36(SUPPL.), pp. 199–233.

Barth, M. E., Beaver, W. H., and Landsman W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view, *Journal of Accounting and Economics*, 31(1-3), pp. 77–104.

Balakrishnan, K., Billings, M. B., Kelly, B., and Ljungqvist, A. (2014). Shaping liquidity: On the causal effects of voluntary disclosure, *Journal of Finance*, 69(5), pp. 2237–2278.

Bhushan, R. (1989). Firm characteristics and analyst following, *Journal of Accounting and Economics*, 11(2-3), pp. 255-274.

Botosan, C. A. (1997). Disclosure level and the cost of equity Capital, *The Accounting Review*, 72(3), pp. 323–349.

Byard, D., Li, Y., and Yu, Y. (2011). The effect of mandatory IFRS adoption on financial analyst's information environment, *Journal of Accounting Research*, 49(1), pp. 69–96.

Charoenwong, C., Chong, B. S., and Yang, Y. C. (2014). Asset liquidity and stock liquidity: International evidence, *Journal of Business Finance & Accounting*, 41(3-4), pp. 435–468.

Christensen, H. B., Hail, L., and Leuz, C. (2013). Mandatory IFRS reporting and changes in enforcement, *Journal of Accounting and Economics*, 56, pp. 147–177.

Claus, J. and Thomas, J. (2001). Equity premia as low as three percent? Evidence from analysts' earnings forecasts for domestic and international stock markets, *Journal of Finance*, 56(5), pp. 1629–1666.

Core, J. E., Hail, L., and Verdi, R. S. (2015). Mandatory disclosure quality, inside ownership, and cost of capital, *European Accounting Review*, 24(1), pp. 1–29.

Cuijpers, R. and Buijink, W. (2005). Voluntary adoption of non-local GAAP in the European Union: A Study of determinants and consequences, *European Accounting Review*, 14(3), pp. 487–524.

Daske, H. (2006). Economic benefits of adopting IFRS or US-GAAP – Have the expected cost of equity capital really decreased? *Journal of Business Finance and Accounting*, 33(3-4), pp. 329–373.

Daske, H., Hail, L., Leuz, C., and Verdi, R. (2008). Mandatory IFRS reporting around the world: Early evidence on the economic consequences, *Journal of Accounting Research*, 46(5), pp. 1085–1142.

Daske, H., Hail, L., Leuz, C., and Verdi, R. (2013). Adopting a label: Heterogeneity in the economic consequences around IAS/IFRS adoptions, *Journal of Accounting Research*, 50(3), pp. 495–547.

DeFond, M., Hu, X., Hung, M., and Li, S. (2011). The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability, *Journal of Accounting and Economics*, 51, pp. 240–258.

Dhaliwal, D. S., Li, O. Z., Tsan, A., and Yang, Y. G. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting, *The Accounting Review*, 86(1), pp. 59–100.

Diamond, D. and Verrecchia, R. E. (1991). Disclosure, liquidity and the cost of capital, *Journal of Finance*, 46, pp. 1325–59.

Easton, P. D. (2004). PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital, *The Accounting Review*, 79(1), pp. 73–95.

Easton, P. D., Eddey, P. H., and Harris, T. S. (1993). An investigation of revaluations of tangible long-lived assets, *Journal of Accounting Research*, 31(Supplement), pp. 1–38.

European Real Estate Association (2010). *Best Practice Recommendations*. http://www.epra.com/media/EPRA_2010_BPR.pdf.

Deloitte (2014). *Speeding ahead - EPRA Annual Report Survey 2013/14*. http://www2.deloitte.com/content/dam/Deloitte/lt/Documents/real-estate/LT_epra_en.pdf.

Francis, J., Nanda, D., and Olsson, P. (2008). Voluntary disclosure, earnings quality, and cost of capital, *Journal of Accounting Research*, 46(1), pp. 53–99.

Gao, F., Dong, Y., Ni, C., and Fu, R. (2015). Determinants and economic consequences of non-financial disclosure quality, *European Accounting Review*, forthcoming.

Gebhardt, W. R., Lee, C. M., and Swaminathan, B. (2001). Toward an implied cost of capital, *Journal of Accounting Research*, 39(1), pp. 135–176.

Hail, L. (2002). The impact of voluntary corporate disclosure on the ex-ante cost of capital for Swiss firms, *European Accounting Review*, 11(4), pp. 741–773.

Hail, L. and Leuz, C. (2006). International differences in the cost of capital: Do legal institutions and securities regulation matter? *Journal of Accounting Research*, 44(3), pp. 485–531.

Horton, J., Serafeim, G., and Serafeim, I. (2013). Does mandatory IFRS adoption improve the information environment? *Contemporary Accounting Research*, 30(1), pp. 423–436.

Healy, P. M., Hutton, A. P., and Palepu, K. G. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure, *Contemporary Accounting Research*, 16(3), pp. 485–520.

Healy, P. M. and Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature, *Journal of Accounting and Economics,* 31, pp. 405–440.

Healy, P. M., Palepu, K. G., and Sweeney, A. P. (1995). Causes and consequences of expanded voluntary disclosure, *Working Paper, MIT Sloan School of Management*.

Kaufmann, D., Kraay, A., and Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues, *World Bank Policy Research Working Paper No. 5430*.

Kim, O. and Verrecchia, R. E. (1994). Market liquidity and volume around earnings announcements, *Journal of Accounting and Economic,* 17(1-2), pp. 41–67.

Khurana, I. K. and Michas, P. N. (2011). Mandatory IFRS adoption and the U.S. home bias, *Accounting Horizons*, 25(4), pp. 729–753.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., and Vishny, R. (2000). Investor protection and corporate governance, *Journal of Financial Economics*, 58(1-2), pp. 3–27.

Lang, M. H. and Lundholm, R. J. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures, *Journal of Accounting Research*, 31(2), pp. 246–271.

Lang, M. H. and Lundholm, R. J. (1996). Corporate disclosure policy and analyst behavior, *The Accounting Review*, 71(4), pp. 467–492.

Lang, M. H. and Stice-Lawrence, L. (2015). Textual analysis and international financial reporting: Large sample evidence, *Journal of Accounting and Economics*, 60(2-3), pp. 110–135.

Leuz, C. (2003). IAS versus U.S. GAAP: information asymmetry-based evidence from Germany's new market, *Journal of Accounting Research*, 41(3), pp. 445–472.

Leuz, C. and Verrecchia, R. E. (2000). The economic consequences of increased disclosure, *Journal of Accounting Research*, 38 (supplement), pp. 91–124.

Leuz, C., Nanda, D., and Wysocki, P. D. (2003). Earnings management and investor protection: An international comparison, *Journal of Financial Economics*, 69(3), pp. 505–527.

Li, S. (2010). Does mandatory adoption of International Financial Reporting Standards in the European Union reduce the cost of equity capital? *The Accounting Review*, 85(2), pp. 607–636.

Liang, L. and Riedl, E. J. (2014). The effect of fair value versus historical cost reporting model on analyst forecast accuracy, *The Accounting Review*, 89(3), pp. 1151–1177.

Ohlson, J. A. and Juettner-Naurothm B. E. (2005). Expected EPS and EPS growth as determinants of value, *Review of Accounting Studies*, 10(2), pp. 349–365.

Sengupta, P. (1998). Corporate disclosure quality and the cost of debt, *The Accounting Review*, 73(4), pp. 459–474.

Shima, K. M. and Gordon, E. A. (2011). IFRS and the regulatory environment: The case of U.S. investor allocation choice, *Journal of Accounting and Public Policy*, 30, pp. 481–500.

Shleifer, A. and Vishny, R. (1997). A survey of corporate governance. *Journal of Finance*, 52(2), pp. 737–783.

Welker, M. (1995). Disclosure policy, information asymmetry, and liquidity in equity markets, *Contemporary Accounting Research*, 11(2), pp. 801–827.

Zhang, G. (2001). Private information production, public disclosure, and the cost of capital: Theory and implication, *Contemporary Accounting Research*, 18(2), pp. 363–384.

Table 1: Sample Selection

	Change	Remaining
Constituent of FTSE EPRA/NAREIT Developed Europe Index as of November 19, 2014		95
Investment property firms that are EPRA Members as of December 20, 2014	+26	121
Less firms		
not publicly listed	0	121
not reporting under IFRS	0	121
for which no annual reports were found	-9	112
Potential firm-year observations (112 firms times 5 fiscal years)		560
Less firm-years:		
in which firm is not publicly traded (e.g. inexistent, merged, bankrupt)	-32	528

This table presents the sample selection process. We begin with all firms that are constituents of the FTSE EPRA/NAREIT Developed Europe index as of November 19, 2014 (95). We additionally include investment property firms that members of the EPRA as of December 20, 2014 (+26). Our base sample comprises of 121 investment property firms of which all firms apply IFRS and are publicly traded. We exclude firms for which annual reports are unavailable (-8). This leaves 112 potential sample firms. Our sample period spans five fiscal years starting in 2009 when the EPRA Best Practice Recommendations were revised extensively up to 2013. This leads to 560 potential firm-year observations (112 firms times 5 fiscal years). We eliminate firm-years in which firms are no publicly traded, which might be the case because firms where inexistent at that time, merged with another company, or ceased their existence. Eventually, we are left with a sample that comprise of 528 firm-years. The firm-year observations are distributed over time as follows: 97 (2009); 103 (2010); 108 (2011); 110 (2012); and 110(2013).

Table 2: Disclosure Statistics

Variable	N	Mean	Std. dev.	Min	p25	Median	p75	Max	Score
Annual reports statistics									
Number of pages	525	155.84	91.89	29.00	100.00	137.00	184.00	704.00	
Number of pages for notes	521	40.56	23.34	0.00	24.00	35.00	52.00	160.00	
EPRA count	527	23.97	32.84	0.00	1.00	12.00	33.00	199.00	
Number of EPRA figures	528	3.36	3.48	0.00	0.00	2.00	6.00	11.00	
Has separate EPRA-part	526	0.20	0.40	0.00	0.00	0.00	0.00	1.00	1/24
External valuation for IP	484	0.90	0.30	0.00	1.00	1.00	1.00	1.00	1/24
Frequency of IP valuations (# per year)	459	1.25	0.74	0.00	1.00	1.00	1.00	4.00	
Lists major properties	528	0.66	0.47	0.00	0.00	1.00	1.00	1.00	1/24
Lists of (re-)development properties	526	0.25	0.44	0.00	0.00	0.00	1.00	1.00	1/24
Number of EPRA tables	528	0.25	0.91	0.00	0.00	0.00	0.00	5.00	5/24
English version available	528	0.97	0.17	0.00	1.00	1.00	1.00	1.00	1/24
Investment property measurement (in mio. EUR except stated otherwise)									
Valuation at fair value (1 or 0)	526	0.93	0.26	0.00	1.00	1.00	1.00	1.00	1/24
Fair value	490	2,464.05	3,472.92	2.84	594.96	1,266.23	2,767.50	28,852.60	
Fair value in notes	43	4,309.95	4,494.60	307.94	688.74	2,566.60	6,260.80	15,738.64	
Historical costs	38	3,621.04	3,404.18	115.83	1,423.46	2,460.94	4,820.40	11,301.04	
Fair value adjustments	483	34.68	197.77	-2,192.10	-9.60	6.61	53.00	1,702.30	
Adjustment on highest and best use	26	2.96	8.13	0.00	0.00	0.00	0.00	35.19	1/24
EPRA Performance Measures (in mio. EUR (earnings, NAV, NNAV) and percent)									
EPRA earnings	187	84.06	150.06	-739.00	17.53	36.61	103.51	985.80	2/24
EPRA NAV	261	1,848.91	2,458.53	1.30	395.84	786.31	2,273.84	15,477.00	2/24
EPRA NNAV	190	2,300.21	2,651.07	1.16	401.33	1,336.96	3,148.21	14,640.00	2/24
EPRA net initial yield	113	5.77	1.12	0.51	5.20	5.74	6.30	8.30	1/24
EPRA net initial yield topped up	94	5.83	0.91	2.10	5.30	5.80	6.40	7.70	1/24
EPRA vacancy rate	175	7.31	5.97	0.40	3.40	5.70	10.00	41.40	2/24
EPRA cost ratio incl. direct vacancy costs	29	18.93	5.95	0.33	17.24	20.30	22.90	28.98	1/24
EPRA cost ratio excl. direct vacancy costs	28	17.74	5.48	2.60	15.19	18.35	20.85	28.29	1/24

The global sample comprises of 528 firm-year observations from 112 real estate firms in 16 countries between 2009 and 2013. All data provided in this table are hand-collected from annual reports. The *Number of pages* corresponds to the total number of pages of the annual report. *Number of pages for notes* is the number of the pages of the financial group statement's notes. *EPRA count* is the count of the word "EPRA" in the annual report. *Number of EPRA figures* is the number of EPRA performance measures disclosed. *Has separate PERA-part* is an indicator variable equal to one if the annual report has a separate part for their EPRA information and zero otherwise. *External valuation for IP* is an indicator equal to one if their investment properties are based on the assessment of external appraisers and zero otherwise. *Frequency of IP valuations* counts how many times the external appraisers assess the value of the investment properties per financial year. *Lists major property* is an indicator variable equal to one if the annual report includes a list of their ten-most-valuable properties and zero otherwise. *Lists of (re-)development properties* is an indicator variable equal to one if the annual report includes a list of all development and redevelopment properties. *Number of EPRA tables* is the number of EPRA-specified tables in the annual report. *English version available* is an indicator variable equal to one if the annual report is publicly available in English language. *Valuation at fair value* is an indicator variable equal to one if investment properties are measured at fair value. *Fair value* is the fair value of all investment properties recognized in the balance sheet. *Fair value in the notes* is the fair value of all investment properties that have to be disclosed in the notes if firms recognize the investment properties at historical cost. *Historical cost* is the recognized amount of all investment properties if the firm measures investment properties at historical costs. *Fair value adjustments* is the total fair value change in investment properties during the financial year. *Adjustment on highest and best use* is the change investment properties that that is due to the new fair value definition (highest and best use) in IFRS 13, which is to be applied for annual periods beginning on or after 1 January 2013. *EPRA Performance measures* is the amount that is disclosed in the annual report for each of the eight performance figures. The last column "Score weights" defines how the *EPRA overall score* was constructed and how much each position was weighted for the score.

Table 3: Summary Statistics

Variable	N	Mean	Std. dev.	Min	p25	Median	p75	Max
Disclosure measurement								
Medal	528	0.30	0.46	0	0	0	1	1
Gold	528	0.13	0.33	0	0	0	0	1
Silver	528	0.08	0.28	0	0	0	0	1
Bronze	528	0.09	0.28	0	0	0	0	1
EPRA overall score	528	0.38	0.21	0.08	0.25	0.33	0.52	1
EPRA performance measures	528	0.65	0.48	0	0	1	1	1
EPRA adoption	418	0.06	0.23	0	0	0	0	1
EPRA application	528	0.21	0.41	0	0	0	0	1
Mechanisms								
Log(spread)	521	-5.37	1.15	-8.15	-6.14	-5.36	-4.62	-1.25
Log(cost of capital)	460	-2.57	0.48	-3.83	-2.83	-2.60	-2.37	-0.43
AnaCov	528	6.41	5.60	0	2	4	10	23
Value Relevance								
Price per share	111	0	0.01	0	0	0	0	0.04
Book value per share	111	0.04	0.05	0	0	0.01	0.06	0.23
EPRA NAV	111	0.04	0.06	0	0	0.01	0.05	0.36
EPRA NNNAV	111	0.04	0.05	0	0	0.01	0.05	0.31
EPS	111	0.13	0.22	0	0.02	0.05	0.15	1.45
EPRA EPS	111	3.33	18.73	0	0.02	0.09	0.36	128.11
Fundamentals								
Btm	520	1.27	0.64	0	0.91	1.12	1.50	5.03
Size	521	6.45	1.24	2.51	5.65	6.46	7.24	10.21
Roa	522	4.62	5.10	-14.82	2.22	4.27	6.35	39.23
Lev	517	0.53	0.17	0.01	0.44	0.55	0.65	0.95
Cost of capital								
Turnover	516	0.43	0.59	0	0.10	0.33	0.53	5.53
Vol	521	0.04	0.02	0.01	0.02	0.04	0.05	0.3
Log(returns)	513	0.09	0.29	-1.16	-0.04	0.09	0.25	1.1
Chs	528	0.48	0.50	0	0	0	1	1
FcBias	513	1.57	9.71	-25.27	-0.14	0.02	0.62	148.25
SeasonedEquityOffering	394	0.40	0.49	0	0	0	1	1
DebtOffering	261	0.38	0.49	0	0	0	1	1
Others								
Number_of_EPRA_adopters	528	69.44	17.43	39	59	74	85	86
LegalQuality	528	1.49	0.35	0.30	1.30	1.59	1.74	1.91

Table 4: Sample Distribution

Panel A: Distributional statistics for the measurement and disclosure scores by country

		Measurement				Medals			
Country	Total observations	# Firm-years measuring IP at FV	# Firm-years measuring IP at AC	# Avg Number of EPRA Figures	Avg EPRA Overall Score	Gold	Silver	Bronze	Total
Austria	20	20	0	2.55	0.3326	0	1	1	2
Belgium	39	39	0	5.26	0.5477	13	2	1	16
Finland	15	15	0	6.33	0.5045	6	3	2	11
France	53	43	10	4.26	0.4250	8	12	4	24
Germany	67	52	15	2.33	0.2772	4	2	5	11
Greece	14	14	0	0	0.1369	0	0	0	0
Israel	9	9	0	4.11	0.3628	0	0	0	0
Italy	10	10	0	0.7	0.2818	0	0	2	2
Luxembourg	15	15	0	1.87	0.3293	0	0	0	0
Netherlands	25	25	0	5.68	0.5515	6	3	5	14
Norway	5	5	0	0.4	0.1848	0	0	0	0
Spain	9	4	5	1.11	0.2264	0	0	0	0
Sweden	40	38	2	1.08	0.2572	0	0	4	4
Switzerland	25	25	0	4.52	0.5188	4	6	1	11
Turkey	17	9	8	0	0.2059	0	0	0	0
United Kingdom	165	165	0	4.01	0.4172	25	15	21	61
All observations	528	488	40	3.36	0.3825	66	44	46	156

Panel B: Distributional statistics for the measurement and disclosure scores by year

		Measurement				Medals			
Year	Total observations	# Firm-years measuring IP at FV	# Firm-years measuring IP at AC	# Avg Number of EPRA Figures	Avg EPRA Overall Score	Gold	Silver	Bronze	Total
2009	97	90	7	1.29	0.2776	7	6	12	25
2010	103	96	7	2.63	0.3443	7	8	8	23
2011	108	100	8	3.46	0.3900	12	9	8	29
2012	110	101	9	4.22	0.4262	16	13	10	39
2013	110	101	9	4.92	0.4595	24	8	8	40
All observations	528	488	40	3.36	0.3825	66	44	46	156

The global sample comprises of 528 firm-year observations from 112 real estate firms in 16 countries between 2009 and 2013. Panel A shows distributional statistics for selected information by country. This includes (1) total observations; (2-3) the number of firm-years that recognize investment properties at fair value and historical cost, respectively; (4) the average number of EPRA Figures disclosed; (5) the average EPRA overall score; and (6-9) and the number of medals that were awared by Deloitte in their EPRA annual report survey. Panel B shows the same distributional statistics by year.

Table 5: Value Relevance

Dependent variable		*Price per share*					
		Book value per share		EPRA NAV per share		EPRA NNNAV per share	
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	?	-0.001 *	0.000	-0.001 **	0.000 **	-0.001 **	0.000 **
		(-1.90)	(0.46)	(-2.08)	(0.53)	(-2.11)	(0.51)
Book value per share	+	0.090 ***	0.078 ***				
		(8.51)	(6.95)				
EPRA NAV per share	+			0.079 ***	0.072 ***		
				(11.68)	(9.82)		
EPRA NNNAV per share	+					0.089 ***	0.080 ***
						(11.25)	(9.35)
EPS	+	0.011 ***		0.011 ***		0.011 ***	
		(5.15)		(5.91)		(5.85)	
EPRA EPS	+		0.087 ***		0.087 ***		0.086 ***
			(3.11)		(3.56)		(3.42)
R^2		0.4488	0.3698	0.5931	0.518	0.5759	0.496
F-statistic		43.97	31.69	78.70	58.04	73.33	53.14
N		111	111	111	111	111	111

This table reports OLS coefficient estimates and, in parentheses, t-statistics of equation (1). We regress price per share on different measures of net asset value (NAV) per share and periodical performance per share. *Price per share* is the market capitalization divided by the number of common shares at the financial year end. NAV per share is measured using three different proxies: *book value per share,* which is book value of equity divided the number of common shares, *EPRA NAV per share,* and *EPRA NNNAV per share* , which both are specified in the EPRA BPR. Periodical performance per share is measured using *EPS,* which is net income divided by the number of common shares, and *EPRA EPS* as specified in the EPRA BPR. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 6: Regression Analysis of Liquidity on EPRA-BPR Compliance and Control Variables

Dependent variable		*Log(Spread)*								
		Medal			EPRA Overall Score			EPRA Performance Measures		
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	?	-4.759 ***	-1.782 ***	-2.059 ***	-4.640 ***	-1.512 ***	-2.035 ***	-4.891 ***	-1.629 ***	-2.080 ***
		(-40.88)	(-7.29)	(-6.28)	(-35.13)	(-6.21)	(-6.20)	(-40.12)	(-6.53)	(6.23)
Medal	-	-1.076 ***	-0.478 ***	-0.307 ***						
		(-10.81)	(-6.26)	(-4.42)						
EPRA Overall Score	-				-1.847 ***	-0.678 ***	-0.480 ***			
					(-7.29)	(-3.89)	(-3.16)			
EPRA Performance Measures	-							-0.115 ***	-0.046 ***	-0.027 ***
								(-7.61)	(-4.36)	(-2.76)
Vol	+		8.532 ***	8.355 ***		8.015 ***	8.110 ***		8.041 ***	8.188 ***
			(3.77)	(4.15)		(3.36)	(4.04)		(3.39)	(4.05)
Turnover	-		-0.488 ***	-0.432 ***		-0.502 ***	-0.427 ***		-0.512 ***	-0.437 ***
			(-4.17)	(-4.10)		(-4.04)	(-3.99)		(-4.15)	(-4.04)
Size	-		-0.542 ***	-0.444 ***		-0.576 ***	-0.440 ***		-0.570 ***	-0.443 ***
			(-16.95)	(-10.28)		(-17.84)	(-10.07)		(-17.60)	(-10.17)
Chs	-			-0.298 ***			-0.312 ***			-0.299 ***
				(-4.45)			(-4.57)			(-4.41)
LegalQuality	-			-0.048			-0.021			-0.029
				(-0.46)			(-0.20)			(-0.28)
AnaCov	-			-0.033 ***			-0.041 ***			-0.041 ***
				(-3.53)			(-4.55)			(-4.39)
Year fixed effets		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.2089	0.6233	0.6588	0.1283	0.6046	0.6539	0.1332	0.6077	0.6902
Adj-R^2		0.1995	0.6173	0.6513	0.1198	0.5983	0.6463	0.1247	0.6015	0.6451
F-statistic		28.14	128.58	108.54	14.32	101.76	100.18	15.26	103.77	100.02
N		515	515	515	515	515	515	515	515	515

This table reports OLS coefficient estimates and, in parentheses, t-statistics of equation (2). We regress log(Spread) on one of three proxies for EPRA BPR compliance (i.e., *Medal, EPRA Overall Score,* or *EPRA Performance Measures*) and control variables. *Log(Spread)* is the logarithmic transformation of the weekly median quoted bid-ask spread (i.e., difference between the bid and ask price divided by the midpoint and measured at the end of each trading day) measured four month after the financial year end. In models 1-3, we use *Medal*, an indicator variable equal to one if firm's annual statement was awarded a medal in the EPRA Annual Repot Survey conducted by Deloitte, to proxy for EPRA BPR compliance. In model 4-6, we use *EPRA Overall Score,* a self-constructed measure to proxy for EPRA BPR compliance. In model 7-9, we use *EPRA Performance Measures*, the number of disclosed EPRA performance measures, to proxy for EPRA BPR compliance. Control variables include the following: *Vol* is the standard deviation of all weekly log returns during the financial year.*Turnover* is yearly turnover volume in a financial year divided by the average number of common shares outstanding. *Size* is the logarithmic transformation of market capitalization at the end of the financial year. *Chs* is an indicator variable equal to one if the number of closely held shares divided by the number of common shares outstanding at the financial year end is below the sample mean and zero otherwise. *LegalQuality* is the country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year. *AnaCov* is the number of analysts following a firm three months after the financial year end. T-statistics in parentheses are calculated using robust standard errors.***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 7: Regression Analysis of Refinancing Costs on EPRA-BPR Compliance and Control Variables

Dependent variable		*Log(COC)*								
		Medal			EPRA Overall Score			EPRA Performance Measures		
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	?	-2.461 ***	-2.609 ***	-2.420 ***	-2.460 ***	-2.273 ***	-2.370 ***	-2.482 ***	-2.311 ***	-2.404 ***
		(-45.80)	(-10.03)	(-9.63)	(-43.48)	(-9.91)	(-9.45)	(-46.79)	(-10.02)	(-9.58)
Medal	-	-0.185 ***	-0.110 ***	-0.107 ***						
		(-4.38)	(-2.74)	(-2.75)						
EPRA Overall Score	-				-0.261 ***	-0.167 *	-0.153			
					(-2.60)	(-1.79)	(-1.62)			
EPRA Performance Measures	-							-0.025 ***	-0.014 **	-0.013 **
								(-3.86)	(-2.45)	(-2.31)
Size	-		-0.056 ***	-0.048 **		-0.062 ***	-0.054 ***		-0.059 ***	-0.051 **
			(-2.69)	(-2.32)		(-2.97)	(-2.59)		(-2.87)	(-2.48)
Chs	-		-0.113 ***	-0.112 ***		-0.120 ***	-0.118 ***		-0.115 ***	-0.113 ***
			(-2.92)	(-2.86)		(-3.04)	(-2.96)		(-2.91)	(-2.85)
Turnover	-		0.275 ***	0.274 ***		0.273 ***	0.273 ***		0.270 ***	0.270 ***
			(4.89)	(4.93)		(4.75)	(4.83)		(4.76)	(4.85)
Btm	?		0.236 ***	0.196 ***		0.240 ***	0.203 ***		0.240 ***	0.203 ***
			(4.62)	(3.90)		(4.65)	(4.00)		(4.67)	(4.02)
LegalQuality	-		-0.174 **	-0.195 **		-0.174 **	-0.196 **		-0.170 **	-0.191 **
			(-2.00)	(-2.55)		(-1.99)	(-2.55)		(-1.96)	(-2.50)
Vol	+			0.897			0.510			0.516
				(0.63)			(0.34)			(0.35)
FcBias	+			0.000			0.000			0.000
				(0.09)			(0.24)			(0.27)
Lev	+			0.201			0.212			0.203
				(1.43)			(1.48)			(1.43)
Roa	-			-0.010			-0.010			-0.011 *
				(-1.63)			(-1.64)			(-1.67)
Year fixed effets		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.0421	0.3449	0.3622	0.0125	0.3388	0.3558	0.0384	0.3428	0.3596
Adj-R^2		0.0313	0.3299	0.3416	0.0092	0.3237	0.3350	0.0275	0.3278	0.3389
F-statistic		5.89	10.61	8.90	2.95	10.18	8.66	5.15	10.84	9.16
N		449	449	449	449	449	449	449	449	449

This table reports OLS coefficient estimates and, in parentheses, t-statistics of equation (3). We regress log(COC) on one of three proxies for EPRA BPR compliance (i.e., *Medal, EPRA Overall Score,* or *EPRA Performance Measures*) and control variables. Following Hail and Leuz (2006), *Log(COC)* is the logarithmic transformation of the mean costs of capital calculated in accordance with four different model specifications suggested in (1) Claus and Thomas (2001), (2) Gebhardt, Lee and Swaminathan (2001), (3) Ohlson and Juettner-Nauroth (2005), and (4) Easton (2004). In models 1-3, we use *Medal* , an indicator variable equal to one if firm's annual statement was awarded a medal in the EPRA Annual Report Survey conducted by Deloitte, to proxy for EPRA BPR compliance. In model 4-6, we use *EPRA Overall Score* , a self-constructed measure to proxy for EPRA BPR compliance. In model 7-9, we use *EPRA Performance Measures* , the number of disclosed EPRA performance measures, to proxy for EPRA BPR compliance. Control variables include the following: *Size* is the logarithmic transformation of the market capitalization at the financial year end. *Chs* is an indicator variable equal to one if the number of closely held shares divided by the number of common shares outstanding at the financial year end is below the sample mean and zero otherwise. *Turnover* is yearly turnover volume in a financial year divided by the average number of common shares outstanding. *Btm* is the book value of equity divided by the market value of equity at the financial year end. *LegalQuality* is the country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year. *Vol* is the standard deviation of all weekly log returns during the financial year. *FcBias* is the difference between the mean financial year end earnings forecast eleven month before the financial year end and the actual earnings as stated in the financial statements. *Lev* is total liabilities divided by total assets at the financial year end. *Roa* is the net income divided by the average total assets in a financial year. T-statistics in parentheses are calculated using robust standard errors.***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 8: Regression Analysis of Analysts Coverage on EPRA-BPR Compliance and Control Variables

Dependent variable		*AnaCov*								
		Medal			EPRA Overall Score			EPRA Performance Measures		
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	?	4.360 ***	-14.709 ***	-15.467 ***	4.076 ***	-16.822 ***	-17.063 ***	5.230 ***	-15.852 ***	-16.123 ***
		(8.87)	(-11.09)	(-11.16)	(6.87)	(-12.26)	(-11.43)	(9.67)	(-11.44)	(-10.85)
Medal	+	6.170 ***	3.503 ***	3.580 ***						
		(11.99)	(7.90)	(8.03)						
EPRA Overall Score	+				9.196 ***	4.306 ***	4.494 ***			
					(7.13)	(4.44)	(4.54)			
EPRA Performance Measures	+							0.641 ***	0.334 ***	0.343 ***
								(8.69)	(5.72)	(5.83)
Size	+		2.289 ***	2.305 ***		2.543 ***	2.525 ***		2.491 ***	2.478 ***
			(12.47)	(12.61)		(13.39)	(13.02)		(13.49)	(13.16)
Chs	+		1.222 ***	1.213 ***		1.470 ***	1.458 ***		1.312 ***	1.298 ***
			(3.40)	(3.41)		(3.82)	(3.81)		(3.42)	(3.41)
Turnover	+		0.988 ***	1.007 ***		1.042 ***	1.044 ***		1.114 ***	1.121 ***
			(3.85)	(3.81)		(3.64)	(3.57)		(3.93)	(3.86)
Vol	+		39.647 ***	34.990 ***		46.906 ***	46.077 ***		46.432 ***	45.340 ***
			(4.24)	(3.34)		(4.36)	(3.85)		(4.41)	(3.89)
FcBias	-		-0.050 ***	-0.051 ***		-0.056 ***	-0.058 ***		-0.056 ***	-0.058 ***
			(2.69)	(-2.75)		(-3.11)	(-3.18)		(-3.04)	(-3.10)
LegalQuality	+		1.425 ***	0.194		1.415 ***	1.128 *		1.354 ***	1.080 *
			(3.24)	(0.62)		(2.93)	(1.90)		(2.83)	(1.84)
Roa	+			1.121 **			0.040			0.041
				(2.11)			(0.89)			(-0.01)
Btm	+			1.894 *			-0.031			-0.005
				(1.69)			(-0.09)			(1.14)
Lev	+			0.042			1.382			1.365
				(1.06)			(1.14)			(0.92)
Year fixed effets		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2		0.2699	0.5777	0.5812	0.117	0.5269	0.5289	0.153	0.5403	0.5423
Adj-R^2		0.2625	0.5682	0.5690	0.1080	0.5162	0.5152	0.1444	0.5299	0.5291
F-statistic		30.01	69.32	57.22	11.44	50.11	40.02	16.65	57.16	46.06
N		497	497	497	497	497	497	497	497	497

This table reports OLS coefficient estimates and, in parentheses, t-statistics of equation (4). We regress AnaCov on one of three proxies for EPRA BPR compliance (i.e., *Medal, EPRA Overall Score,* or *EPRA Performance Measures*) and control variables. *AnaCov* is the number of analysts following a firm three months after the financial year end. In models 1-3, we use *Medal*, an indicator variable equal to one if firm's annual statement was awarded a medal in the EPRA Annual Report Survey conducted by Deloitte, to proxy for EPRA BPR compliance. In model 4-6, we use *EPRA Overall Score,* a self-constructed measure to proxy for EPRA BPR compliance. In model 7-9, we use *EPRA Performance Measures*, the number of disclosed EPRA performance measures, to proxy for EPRA BPR compliance. Control variables include the following: *Size* is the logarithmic transformation of the market capitalization at the financial year end. *Chs* is an indicator variable equal to one if the number of closely held shares divided by the number of common shares outstanding at the financial year end is below the sample mean and zero otherwise. *Turnover* is the yearly turnover volume in a financial year divided by the average number of common shares outstanding. *Vol* is the standard deviation of all weekly log returns during the financial year. *FcBias* is the difference between the mean financial year end earnings forecast eleven month before the financial year end and the actual earnings as stated in the financial statements. *LegalQuality* is the country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year. *Roa* is the net income divided by the average total assets in a financial year. *Btm* is the book value of equity divided by the market value of equity at the financial year end. *Lev* is total liabilities divided by total assets at the financial year end. T-statistics in parentheses are calculated using robust standard errors.***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 9: Determinants of EPRA Adoption, EPRA Application, and EPRA Compliance

		Probit				OLS			
Dependent variable		EPRA Adoption		EPRA Application		EPRA Overall Score		EPRA Performance Measures	
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	?	0.739	-2.163 ***	-0.143	-2.020 ***	-0.097	-0.056	-0.482	-3.609 ***
		(0.31)	(-4.83)	(-0.14)	(-5.22)	(-1.02)	(-1.36)	(-0.40)	(-5.09)
log(returns)	?	-0.370	-0.314	-0.268	-0.039	-0.115 ***	-0.073 ***	-1.456 ***	-0.920 **
		(-0.97)	(-1.20)	(-1.06)	(-0.18)	(-3.51)	(-2.66)	(-2.88)	(-2.14)
Debt Offering	+	0.584 **	0.589 **	0.912 ***	0.891 ***	0.102 ***	0.100 ***	1.409 ***	1.399 ***
		(2.27)	(2.29)	(5.89)	(5.81)	(3.85)	(3.79)	(3.29)	(3.27)
SeasonedEquityOffering	+	-0.063	-0.115	0.151	0.133	0.014	0.013	0.264	0.255
		(-0.25)	(-0.47)	(1.09)	(0.97)	(0.72)	(0.67)	(0.87)	(0.84)
LegalQuality	+	-0.146	-0.133	0.353 **	0.313 *	0.096 ***	0.097 ***	1.706 ***	1.708 ***
		(-0.70)	(-0.65)	(2.02)	(1.85)	(4.50)	(4.55)	(4.63)	(4.67)
Number_of_EPRA_adopters	+	-0.026	0.010 *	-0.038	0.007 *	0.005 **	0.003 ***	-0.011	0.061 ***
		(-0.96)	(1.67)	(-1.49)	(1.67)	(2.19)	(7.48)	(-0.42)	(8.20)
Year fixed effets		Yes	No	Yes	No	Yes	No	Yes	No
Pseudo-R^2 / R^2		0.0515	0.0601	0.1018	0.0888	0.1711	0.1597	0.1911	0.1788
Wald-Chi^2 / F-statistic		9.25	16.38	56.49	47.1	12.90	21.87	16.28	27.56
N		403	403	513	513	513	513	513	513

This table reports Probit (1-4) and OLS (5-8) coefficient estimates and, in parentheses, t-statistics of equation (5) and (6). We regress EPRA Adoption, EPRA Application, EPRA Overall Score, and EPRA Performance Measures on potential determinants. *EPRA Adoption* is an indicator variable equal to one when firms received their first silver or gold medal in Deloitte's EPRA Annual Report Survey for the time period between 2010 and 2013 and zero otherwise. *EPRA Application* is an indicator variable equal to one if firms received either a gold or silver medal in Deloitte's EPRA Annual Report Survey in the time period between 2009 and 2013 and zero otherwise. *EPRA Overall Score* is a self-constructed measure to proxy for the extent to which firms comply with EPRA BPR. *EPRA Performance Measures* is the number of disclosed EPRA performance measures in their annual report. Potential determinants include the following: *log(returns)* is the logarithmic transformation of the relative share price performance in the financial year. *DebtOffering* is an indicator variable equal to one if a firm experienced a debt issuance in the following financial year and zero otherwise. *SeasonedEquityOfferings* is an indicator variable equal to one if a firm experienced an SEO in the following year or zero otherwise. *LegalQuality* is the country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year. *Number_of_EPRA_adopters* is the numbers of firms in our sample that disclosed at least one EPRA performance measure in that financial year. T-statistics in parentheses are calculated using robust standard errors.***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Table 10: Spillover Effects and the Propagation of EPRA Appliers

Dependent variable		log(Spread)			log(CoC)			Analyst coverage		
Variables	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Intercept	?,?,?	-4.915 ***	-1.753 ***	-1.959 ***	-2.429 ***	-2.602	-2.443 ***	7.254 ***	-13.206 ***	-14.417 ***
		(-22.42)	(-5.66)	(-5.39)	(-25.12)	(-14.42)	(-9.27)	(7.66)	(-8.80)	(-9.29)
Percent EPRA adopters	+,+,-	-0.336	-0.082	-0.200	-0.132	0.097	0.182	-3.449 **	-0.841	-1.066
		(-0.99)	(-0.29)	(-0.79)	(-0.85)	(0.66)	(1.01)	(-2.40)	(-0.64)	(-0.79)
*Percent EPRA adopters * adopter*	-,-,+	-1.656 ***	-0.552 ***	-0.321 ***	-0.341 ***	-0.243 ***	-0.235 ***	9.719 ***	5.382 ***	5.447 ***
		(-10.09)	(-4.42)	(-2.73)	(-5.26)	(-4.07)	(-4.13)	(11.08)	(7.22)	(7.24)
Vol	+,+,-		8.365 ***	8.363 ***			-0.256		43.569 ***	40.572 ***
			(3.71)	(4.29)			(-0.19)		(4.64)	(3.81)
Turnover	-,-,+		-0.498 ***	-0.433 ***		0.273 ***	0.278 ***		1.016 ***	1.037 ***
			(-4.07)	(-3.97)		(5.53)	(5.25)		(3.78)	(3.71)
Size	-,-,+		-0.560 ***	-0.449 ***		-0.050 **	-0.042 **		2.242 ***	2.285 ***
			(-16.89)	(-10.46)		(-2.51)	(-2.05)		(12.09)	(12.16)
Chs	-			-0.304 ***		-0.166 ***	-0.115 ***		1.341 ***	1.365 ***
				(-4.49)		(-4.37)	(-2.94)		(3.63)	(3.69)
LegalQuality	-,-,?			-0.071			-0.214 ***		1.645 ***	1.467 ***
				(-0.69)			(-2.81)		(3.62)	(2.71)
AnaCov	-			-0.037 ***						
				(-4.00)						
Btm	?,?					0.237 ***	0.192 ***			0.331
						(4.89)	(3.88)			(1.05)
FcBias	+,-						0.000		(-0.05) ***	-0.051 ***
							(0.20)		(-3.63)	(-3.64)
Lev	+,?						0.245 *			1.502
							(1.79)			(1.29)
Roa	?,?						-0.008			0.045
							(-1.36)			(1.12)
Year fixed effets		No	No	No	No	No	No	No	No	No
R^2		0.1740	0.6059	0.6910	0.0488	0.3303	0.3548	0.2263	0.5446	0.5458
F-statistic		57.37	183.34	139.31	17.65	21.32	12.63	61.58	84.28	64.27
N		514	514	514	460	452	449	527	501	496

This table reports OLS coefficient estimates and, in parentheses, t-statistics of equation (7). We regress log(Spread), log(COC) and AnaCov on the percentage of adopters, on the percentage of adopters interacted with a dummy variable for adoption, and on control variables. *Log(Spread)* is the logarithmic transformation of the weekly median quoted bid-ask spread (i.e., difference between the bid and ask price divided by the midpoint and measured at the end of each trading day) measured four month after the financial year end. *Log(COC)* is the logarithmic transformation of the mean costs of capital calculated in accordance with four different model specifications suggested in (1) Claus and Thomas (2001), (2) Gebhardt, Lee and Swaminathan (2001), (3) Ohlson and Juettner-Nauroth (2005), and (4) Easton (2004). *AnaCov* is the number of analysts following a firm three months after the financial year end. The *percentage EPRA adopters* represents the number of EPRA adopters of a given year scaled over the total number of firms in the sample for the year. The indicator variable *adopter* equals 1 if the firm has adopted EPRA in the given year and 0 otherwise. Control variables include the following: *Vol* is the standard deviation of the weekly log returns during the financial year. *Turnover* is yearly turnover volume in a financial year divided by the average number of common shares outstanding. *Size* is the logarithmic transformation of the market capitalization at the financial year end. *Chs* is an indicator variable equal to one if the number of closely held shares divided by the number of common shares outstanding at the financial year end is below the sample mean and zero otherwise. *LegalQuality* is the country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year. *AnaCov* is the number of analysts following a firm three months after the financial year end. *Btm* is the book value of equity divided by the market value of equity at the financial year end. *FcBias* is the difference between the mean financial year end earnings forecast eleven month before the financial year end and the actual earnings as stated in the financial statements. *Lev* is total liabilities divided by total assets at the financial year end. *Roa* is the net income divided by the average total assets in a financial year. T-statistics in parentheses are calculated using robust standard errors.***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively.

Appendix A: Variable Definition

Variables	Indicator/ Continous	Definition
Disclosure measurement		
Medal	Ind.	An indicator variable equal to one if firm's annual statement was awarded any medal in the Annual Report Survey conducted by Deloitte and zero otherwise.
Gold	Ind.	An indicator variable equal to one if firm's annual statement was awarded a gold medal in the Annual Report Survey conducted by Deloitte and zero otherwise.
Silver	Ind.	An indicator variable equal to one if firm's annual statement was awarded a silver medal in the Annual Report Survey conducted by Deloitte and zero otherwise.
Bronze	Ind.	An indicator variable equal to one if firm's annual statement was awarded a bronze medal in the Annual Report Survey conducted by Deloitte and zero otherwise.
EPRA Overall Score	Cont.	A self-constructed measure to proxy for the extent to which firms comply with EPRA BPR.
EPRA Performance Measures	Cont.	The number of disclosed EPRA performance measures in an annual report.
EPRA Adoption	Ind.	An indicator variable equal to one when firms received their first silver or gold medal in Deloitte's EPRA Annual Report Survey for the time period between 2010 and 2013 and zero otherwise.
EPRA Application	Ind.	An indicator variable equal to one in each year firms received either a silver or gold medal in Deloitte's EPRA Annual Report Survey and zero otherwise.
Mechanisms		
log(Spread)	Cont.	The logarithmic transformation of the weekly median quoted bid-ask spread (i.e., difference between the bid and ask price divided by the midpoint and measured at the end of each trading day) measured four month after the financial year end.
log(COC)	Cont.	Following Hail and Leuz (2006), log(COC) is the logarithmic transformation of the mean costs of capital calculated in accordance with four different model specifications suggested in (1) Claus and Thomas (2001), (2) Gebhardt, Lee and Swaminathan (2001), (3) Ohlson and Juettner-Nauroth (2005), and (4) Easton (2004).
AnaCov	Cont.	The number of analysts that follow a firm three months after the financial year end.
Price per Share	Cont.	The market capitalization divided by the number of common shares at the financial year end.
Value Relevance		
Book value per share	Cont.	The book value of equity divided by the number of common shares at the financial year end.
EPRA NAV per share	Cont.	The EPRA net asset value divided by the number of common shares at the financial year end.
EPRA NNNAV per share	Cont.	The EPRA triple net asset value divided by the number of common shares at the financial year end.
EPS	Cont.	The net income divided by the number of common shares at the financial year end.
EPRA EPS	Cont.	The EPRA earnings divided by the number of common shares at the financial year end.
Fundamentals		
Btm	Cont.	The book value of equity divided by the market value of equity at the the financial year end.
Size	Cont.	The logarithmic transformation of the market capitalization at the financial year end.
Roa	Cont.	The net income divided by the average total assets in a financial year.
Lev	Cont.	The total liabilities divided by the total assets at the financial year end.
Cost of capital		
Turnover	Cont.	The yearly turnover volume in the financial year divided by the average number of common shares outstanding.
Vol	Cont.	The standard deviation of the weekly log returns during the financial year.
log(returns)	Cont.	The logarithmic transformation of the relative share price performance plus one in the financial year.
Chs	Cont.	An indicator variable equal to one if the number of closely held shares divided by the number of common shares outstanding at the financial year end is below the sample mean and zero otherwise.
FcBias	Cont.	The difference between the mean financial year end earnings forecast eleven month before the financial year end and the actual earnings as stated in the financial statements.
SeasonedEquityOffering	Ind.	An indicator variable equal to one if a firm experienced an SEO in the following year and zero otherwise.
DebtOffering	Ind.	An indicator variable equal to one if a firm experienced a debt issuance in the following financial year and zero otherwise.
Others		
Number of EPRA adopters	Cont.	The numbers of firms in our sample that disclosed at least one EPRA performance measure in the annual report.
LegalQuality	Cont.	The country-specific regulatory quality index by Kaufmann et al. (2010) for each financial year.